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Educational News and Editorial Comment

THE COMMONWEALTH RESEARCH FUND

In the *Elementary School Journal* for March, 1921, there appeared an editorial describing in considerable detail the plan of organization and the proposed program of educational research of the Commonwealth Fund. The large significance of this kind of provision for research makes the results of the first year's activities of particular interest. An account of the investigations made possible through grants from this fund is given in the following extract from a statement of Samuel P. Capen, secretary of the Educational Research Committee of the Commonwealth Fund.

The Educational Research Committee has held three regular meetings. Two of these were devoted to the assignment among the most promising projects of the appropriation made for the academic year 1920–21. At the third meeting held in October, 1921, a portion of the appropriation for the academic year 1921–22 was assigned. A brief account of the projects which have been supported may be of interest. It will be noted that these all fall within the first three of the major fields of study indicated in the initial report of the conference.

EDUCATIONAL FINANCE

The Commonwealth Fund has joined with three other educational foundations in appropriating to the American Council on Education a sum sufficient to carry forward a comprehensive investigation of educational finance in the United States. The program for public education laid down in legislative

enactments and state constitutions will be examined to determine to what extent communities are already meeting the public desires. Effort will be made to investigate the cost of the program designated by the public. The possibility of effecting economies will be studied. The relation of educational expenditures to expenditures for other governmental purposes will be worked out. Intensive studies will be made in individual states that may be regarded as typical, and the most important facts covering the country as a whole will be assembled and collated. The American Council on Education has appointed a special commission to take charge of this investigation.

An appropriation has also been granted to Columbia University for the preparation under the direction of Professor George D. Strayer of an initial report on city school budgets.

MEASURES AND STANDARDS OF ACHIEVEMENT IN SCHOOL SUBJECTS

Appropriations have been made to Columbia University for the conduct of two investigations under the direction of Professor E. L. Thorndike. The first investigation deals with the possible reorganization of the teaching material in algebra and the methods of presenting that subject. What is known about the psychology of algebra is to be collected, gaps in that knowledge are to be noted and filled by appropriate investigations so far as possible, especially such as are important in possible changes in curricula and methods.

The second investigation relates to vocational guidance. It is designed to prepare standard tests of ability to continue school work, of ability to learn to do clerical work, and of ability in the mechanical trades and factory work. These tests are to be for use with boys and girls of approximately fifteen or sixteen years of age. It is expected that they will be so formulated as not to require the services of a psychologist to give them.

Two appropriations have been made to the University of Chicago, one for the use of Professor Judd and assistants in conducting a laboratory study of reading, and the other to Professor Morrison for devising a series of tests designed to measure the progress of pupils in French under ordinary high-school instruction. In the investigation of reading, laboratory methods are used which teachers cannot employ. The movements of the eyes of adults and children are photographed under different conditions while they are reading various kinds of passages. It is expected that in this way the processes involved in good and bad reading and in mature and immature reading may be determined. Once the characteristics of various kinds of readings are ascertained, it is possible to turn over to teachers many useful suggestions about the handling of pupils.

The French investigation is designed to throw light upon the effectiveness of grammatical as compared with non-grammatical methods in learning to read the foreign language; the pupil's command of grammatical usage in functional form compared with his knowledge of grammatical principles abstractly stated; and the relation between the ability to get the meaning of a series of French

words stated apart from any context and the ability to react to the meaning of the same words when they are included in a piece of discourse.

An appropriation was made to be spent by the chairman of the Educational Research Committee on a preliminary conference on the social studies. The conference outlined the problems in the reorganization of teaching material in the social studies and on the basis of its report the committee has recommended further appropriations for a historical review of the social studies and an evaluation of current experiments in new methods of presenting these subjects.

An appropriation has been made to the Board of Education of Winnetka, Illinois, for the conduct of a study under the direction of Superintendent Carleton W. Washburne of periodical and reference literature to determine the commonly known and referred to historical and geographical material, with a view to the possible reorganization of the school material for teaching these subjects.

A grant has been made to the Leland Stanford Junior University for a study, under the direction of Professor L. M. Terman, of gifted children in California. At present, such children remain unidentified and submerged in the school's masses, The usual curriculum methods leave their intellectual and volitional resources largely undeveloped, sometimes possibly perverted. It may be more important to discover and to give appropriate educational opportunity to a single gifted child than to prevent the birth of a thousand feeble-minded. The investigation proposes to secure certain basic facts with reference to approximately one thousand school children of exceptionally superior intellectual ability, and to follow up the records and achievements of these pupils over a period of years.

A subsidy has been granted to the New York Association of Consulting Psychologists for a study partly similar in its objects to that of Professor Terman. It is proposed to give intensive psychological examinations to students in a group of public schools in New York in order to determine the ability of children as they enter school, classify them as to ability and follow them up by re-examinations and through the services of a home worker, and thus to lay the basis of possible modifications of courses of study for the benefit of intellectually superior children and that the less able children may be given better opportunities for development.

REORGANIZATION OF THE ADMINISTRATIVE UNITS OF THE PUBLIC EDUCATIONAL SYSTEM

The fund has made a grant to the University of Minnesota to be under the direction of Professor L. V. Koos in studying and critically evaluating the present status of the junior-college movement. There are now upward of three hundred of these institutions and they are multiplying rapidly. It is the purpose of the study to show their relations to secondary education, to the prevailing four-year college of liberal arts, and to professional education.

Such a study, it is believed, should have large influence in determining the trend of future efforts toward educational reorganization at the level of the lower years of the college course.

The Educational Research Committee believes that there should be many more appeals for subventions than have thus far come to it and that requests should be made by a much wider range of institutions. Indeed the conditions of the grant and the policy of the committee are so flexible that any first-class project which can be clearly defined and budgeted is likely to receive favorable consideration. The committee meets three times a year, in the autumn, in the early spring, and in the early summer.

The address of the secretary of the Educational Research Committee, Mr. Samuel P. Capen, is 818 Connecticut Avenue, Washington, D.C.

SIZE OF SCHOOL CLASSES

The *London Times* discloses in a discussion on the size of classes, published in its "Educational Supplement," something of the distress in which the English educational system finds itself because of a shortage of funds, and at the same time propounds a question for which there is no scientific answer on the basis of available experimental data. A part of the article is as follows:

Always a popular subject with teachers, the size of classes has at the present moment a certain special interest, for it has got hitched on to the vital problem of salaries. It is worth following up the educational principles involved in the proposal to economize by increasing the size of school classes. All the world knows that the London County Council had set out long before the war on a scheme of gradually reducing the size of classes in the elementary school so that forty should be the standard number. This involved a reconstruction of the classroom accommodation within the whole area and a gradually increasing cost in the matter of teachers' salaries. But the scheme was well organized, and everything was going on well toward the realization of the ideal when the war intervened and put a stop to everything of the kind. It was hoped, however, that at the worst the adverse conditions would do no more than stop the immediate progress: it was not expected that the movement would be reversed and plans made for increasing the size of school classes all round. The proposal is not put in that precise form. It is so generally recognized that the present size of classes ought to be reduced that the proposal rather takes the form of securing economy—or, to put it more accurately, a saving—by the reduction of the size of school staffs.

Again, leaving out of account the big economic question and assuming for the moment that it is a wise policy to economize on education at all, the

problem remains of how it may be accompanied by the minimum amount of educational damage. A reduction of salaries all round is the most obvious way of effecting an immediate saving. The teachers naturally object. It is not unreasonable to apply to them the same argument as was used in the case of the miners—"Either accept less money or produce more coal." Put thus, the proposition is not unfair if the product of our work happened to be material. But working with coal is different from working with children. If miners work a day longer in the week or an hour longer in the day the resulting coal bears no mark to indicate the change. In dealing with children it is different. With a class of forty a teacher can produce different results from what he can with a class of sixty. With the larger class he has certainly harder work; there is more strain during class hours, with longer periods of correction out of school hours. So far as the teacher suffers by this increased strain he is in exactly the same position as the miner whose hours are increased. Within the limits of not breaking down altogether, the teacher, like his fellow workers in all departments, must take his share in the increased effort demanded by the present adverse conditions. But where the interests of the children suffer a new element enters.

Even here, it is true, the same sort of argument may be used. Why should we not say that at a time of general distress everybody, children included, should share the disadvantages. So long as their education does not become positively harmful, why should they not suffer a slight lowering of its quality, such as might result from an increase in the number of pupils in a class? This throws us back upon an inquiry into the disadvantages of large classes. The current view is that the best work can be done with an elementary class of thirty-five to forty and a secondary class of twenty-five to thirty. It is true that there are those who would demand a lower total in both cases, and still others who would reverse the ratios and demand a smaller class in the elementary school as compared with the secondary.

We must not forget that there are those who see certain positive advantages in the large classes. For some purposes it is true that quite large classes can be treated more satisfactorily than small ones. Dr. F. H. Hayward never tires of pleading for the large class in everything where stimulus and inspiration form parts of the essence of the teaching process. Even when it comes to matters of instruction a case is sometimes made out for very large classes. It must not be supposed that the monitorial system is by its very nature limited to elementary-school work. The plan has been recommended for secondary schools under certain conditions.

A SCHOOL CITY

Very little in a practical way has been done in the past to teach citizenship to the boys and girls in the public schools except from the textbook. To meet the need, and at the same time interest

the pupils in good citizenship, the grammar school of Newport Beach, California, was organized into a city government similar to that of Newport Beach, as follows: Six trustees were elected and various boards, such as board of health, board of public property, police force, and board of education. A court was also instituted before which all cases of misdemeanor are tried, one of the teachers acting as judge.

The duties of the various boards are as the names imply. The board of health sees that the basements are kept clean and that the yard is free from paper and other rubbish. In fact, the board of health has in charge the sanitation of the school. Needless to say, the board does its duty. The board of public property takes charge of all school properties such as athletic supplies, seats, desks, etc. Any wilful damage to school property is brought to the notice of the board, which makes an estimate of the damage done, and a bill is presented to the person who caused the damage. The police enforce the laws of the school government by requesting all law-breakers to appear before the court at stated times to answer for their disregard for law and the rights of others. The board of education tries to help those who are backward in their studies by encouragement and such explanation and help as they are able to give.

The school government has been in operation for about six months and, contrary to the predictions of some few persons, it works even beyond the expectations of those who originated it. The entire school atmosphere is more wholesome than it ever was previous to the organizing of the self-government plan. Following are some extracts from a letter written to the principal by Mrs. Margaret S. McNaught, commissioner of elementary schools: "I cannot find any weak places in your plan. I know enough about the sort of thing you are doing to know it is one of the most difficult ways of conducting the government of a school and one of the most valuable. . . . . I sincerely hope your school will hold to your citizenship training, because I believe you are on exactly the right track."

In a recent supposed dialogue, published in the local paper, arguments pro and con were given for the benefit of those who are

interested enough in the self-government plan to inquire into it in detail.

It may be said in conclusion that if it is important that a child be taught reading, writing, and arithmetic, it is doubly important that he be taught citizenship; for school subjects should be only tools to be used by the individual in developing himself into a political, moral, and religious force, to put into practice those principles for which our forefathers came to America.

H. O. ENSIGN

SUPERVISING PRINCIPAL
NEWPORT–BALBOA

NEW YORK RATING SYSTEM FOR TEACHERS

For ten years or more the New York school system has been struggling with the problem of preparing a scheme for the rating of teachers. The usual objections to any plan which puts promotion and increases in salary on a merit basis have been vigorously urged against the earlier efforts of the various committees that have worked on the New York plan. There have been misunderstandings and delays, but finally a plan has been officially adopted.

The handbook describing the plan is briefly reviewed in the bulletin issued by the principals, as follows:

> The first eight pages explain the purpose of the handbook and of the new rating forms. The next twenty-four pages give brief definitions of the elements of teaching listed on the back of the individual rating report. A separate chapter is devoted to each of the five general headings: professional attitude, instruction, discipline, personal attributes, routine.

The same bulletin comments on the basic principles involved in such a plan as follows:

> In the preparation of any rating plan and also in its administration, there are five fundamental principles. The first of these is that the rating plan must have as its main purpose the guiding of teachers into better service. It must be inspirational and instructive. Both teachers and supervising officers must get away from the idea of rating as punishment, if any rating system is to have any value in the improvement of teaching or the satisfaction of the community. A rating plan which serves only as punishment produces resentment among teachers and acts as a deterrent to improvement and a bar to securing good teachers. But a rating plan which is recognized by both teachers and supervisors as a means of instructing young or inexperienced

teachers, as a professional method of correcting errors and negligences which even more experienced teachers may fall into, and as a businesslike scheme of estimating a teacher's right to salary increase, promotion, and preferment—such a rating plan will have no opponents among faithful or intelligent or ambitious teachers.

The successful operation of this first consideration is dependent upon the second and third of our fundamental principles. The second involves the relations between the rating official and the teacher. There is but one way to establish the right relationship and that lies in the procedure preceding the giving of the rating. The second fundamental principle, therefore, is that the recording of the rating must be preceded by (*a*) Personal conferences between principal and teacher. (*b*) Written suggestions to the teacher showing where her work needs improvement and how she may accomplish it. (*c*) Opportunity to observe good work both in her own school and elsewhere. (*d*) Written record of items which will enter into the rating, particularly if the rating mark is likely to be unfavorable. The record should be made as each item is noted and a copy should always be given to the teacher at the same time the item is noted.

The third principle is that the teacher should be fully informed, in advance, upon beginning service in any school system, just what requirements will enter into the estimation of the value of her work and also just how that estimation of her work will be recorded. The third consideration, then, deals with the relation established with teachers by the employing officials, the Board of Education and the superintendent of schools. I was a teacher several years before I knew anything about any record of my services, more years before I saw a rating blank, and still more before I understood or was told anything about how the record of my ratings would enter into my chances for promotion. There is no such lack of information among teachers of any experience in New York City today, but there is an absolute absence of *advance* information for the new teacher and there is no *official* information for anyone.

What wonder, then, that the fourth principle is so often violated? This fourth principle demands that the rating plan shall be understood so generally and clearly that teachers in the same school system shall not suffer because of differences in ideals, differences in requirements. Teachers' results cannot be counted out like bricks laid. There are always emergencies, unforeseen conditions, which enter into, must enter into, the amount or the excellence even of work which can be measured in bricks or pounds or by a yard-stick. How much more so with the teacher of little children! But in the main essentials, in those requirements which every good school system must secure and justly asks of teachers, there should be definite explanations given, definite standards set up, and an earnest effort to secure uniformity of application.

Lastly, the rating plan must be administered by the principal or other rating official with courage and with justice. We need not dwell on this fifth consideration. It should be self-evident, and it will be if a scientific plan of

rating teachers is prepared, which gives due consideration to each of the underlying principles already enumerated. Let us be honest enough now to acknowledge that it has sometimes happened that courage or justice has been missing, sometimes both lost, in the giving of teachers' ratings. The reasons are known to us all,—failure on the part of some employing officials to sustain the principal who has marked down an unsatisfactory teacher with influential connections; the fear of offending teachers during the shortage of the past ten years; misinformation and misunderstanding on both sides. Let us use our new strength as a united body of principals to push all these things into the past era and live with our teachers in a new period of mutual confidence, complete understanding of requirements, and conscientious fulfilment of duties and regulations arrived at in open conference and concurred in by the teachers because their judgment has been consulted and their initiative allowed expression. These are the essentials of right relationship.

But no principal can establish such relations without the aid of a rating plan based on the fundamental considerations outlined and also accorded proper respect by higher school officials. No teacher can be sure that his services will receive due consideration for promotion unless they are recorded in a manner respected by teacher, principal, and higher officials. No community can be certain that it is securing, retaining, and promoting those teachers who are giving in return for its trust and its money the best possible services unless those services are properly judged and recorded.

Finally, the gist of the rating system is summarized on the official individual rating card which gives the following list of qualifications on which teachers are to be judged:

I. INSTRUCTION

A. Use of English
B. Knowledge of subject-matter
C. Skill in teaching:
   1. Evidence of preparation
   2. Definiteness of aim
   3. Appropriateness of method
   4. Good questioning
   5. Thoroughness of drill
   6. Participation and interest of class
D. Results obtained

II. DISCIPLINE

A. Control of class
B. Training pupils in self-control
C. Effect on attendance and truancy
D. Character building

III. PROFESSIONAL ATTITUDE

A. Regularity of attendance and punctuality
B. Co-operation
C. Social service
D. Volunteer activities
E. Care of physical welfare of child
F. Loyalty
G. Self-improvement

IV. PERSONAL ATTRIBUTES

A. Personal appearance
B. Use of voice
C. Cheerfulness
D. Courtesy
E. Self-control
F. Initiative and demonstrated leadership
G. Tact
H. Sympathy

V. ROUTINE

A. Accuracy and promptness in preparing reports and in keeping records
B. Classroom administration

STUDY OF CHILDREN OF PRESCHOOL AGE

Professor B. T. Baldwin contributes the following statement of a new laboratory which has been organized under his direction at Iowa City:

A laboratory in child psychology for experimental work with children from two to four years of age has been opened by the Child Welfare Research Station at the State University of Iowa. Twenty-four children are in daily attendance in two sections from nine to twelve o'clock.

From the educational point of view the object of the preschool laboratory is to provide an opportunity for little children to become adjusted to a normal group environment while still enjoying the characteristic individual activities of early childhood.

From the scientific standpoint the laboratory provides material for observing the reactions of children of an age that has never been extensively studied because of the difficulty of providing controlled experimental conditions in the home environment.

The children are occupied with a very simple and flexible schedule of singing, games, stories, rhythmic exercises, and simple occupational projects. A graduate assistant keeps a detailed log book of observations made on the children and notes interesting reactions and the conditions under which new abilities develop. The children willingly leave the group to play other interesting

"games" in the psychological examination rooms. A variety of mental examinations have already been made on each child. Several studies on different phases of the development of motor co-ordination are in progress. Physical measurements of each child are made once a month. Investigations are also made into the heredity, home conditions, and special characteristics of the families of the children as a background for the psychological findings.

The laboratory consists of a new six-room building especially designed and furnished for this work. In addition to the usual radiators set high above the reach of the children heat pipes are distributed between the two floors in order that the children will be protected when sitting on the floor in the coldest weather.

The main group room, twenty-four feet square, is at the front of the building with twelve large windows admitting light from three sides. The woodwork is stained moss green, and the walls of cream beaver board are paneled with green wood strips. Chintz curtains in nursery rhyme pattern hang at the sides of the windows, the broad sills of which are covered with potted plants.

There are small low tables and chairs—not the stereotyped kind with turned legs, but sturdy models with attractive straight lines. Large hand-colored illustrations of fairy tales add to the charm of this very homelike room. Hinged to the wainscoting at three sides of the room are a dozen little lattice gates which when swung out into the room form partial inclosures in which the children play individual games and lie during the mid-morning rest period. There is a sand table, a slide, a set of large building blocks for making "real" houses, a phonograph with special records for such young children, and a great variety of material for occupational projects besides the outdoor play equipment of swings and teeter board.

Opening out from the group room is a laboratory and a small pantry with sink and gas stove. The plumbing fixtures of these rooms are small and set low for the little children. A large cupboard and the entrance hall which also serves as a cloakroom isolate the two laboratory rooms from the group room.

HEALTH CAMPAIGN IN AKRON, OHIO

A campaign to improve the diet standards of children of school age was recently conducted in Akron, Ohio. As a preliminary step, 1,011 children were weighed and measured under the direction of school authorities. Of these children 58 per cent were underweight, nearly a fourth of these being more than 10 per cent underweight. On the suggestion of the home demonstration agent of the United States Department of Agriculture and state agricultural college the children were given one-half pint of milk in the

middle of the morning, and the other underweight children were merely taught how to improve their weight themselves. At the close of the second month it was found that 67 per cent of all the children underweight had made some gain.

At this time the agent met with the mothers of these children to demonstrate the results of improved diet and to explain how to plan balanced meals. In this demonstration sixty boys and girls who had the largest underweight percentages were selected for physical examinations, made by a physician in the presence of the parents. Each mother was told what the proper average weight for age and height is. She was given a health card on which to record her child's health habits for a week. The record was to show the number of hours of sleep daily and a complete diet list, which was to be filled out and used according to instructions given by the home demonstration agent. Other health habits, such as deep breathing and teeth brushing, were also to be recorded.

The demonstration was followed by weekly conferences of the mothers of the underweight children with the doctor, nurse, and home demonstration agent, at which the health record for the week was examined, the weekly weights taken and additional instruction and advice given the parents. As a result, almost every mother reported intelligent interest on the part of the children in the food work.

"We never sit down to the table but that the question arises as to whether or not we are having the right things to eat," said one mother in speaking of the excellent results achieved through this piece of nutrition work.

News Items from the School of Education of the University of Chicago

THE UNIVERSITY OF CHICAGO DINNER

The University of Chicago Dinner, which is held annually during the week of the meeting of the Department of Superintendence will be held Wednesday evening, March 1, at the Hamilton Club, 20 South Dearborn Street, Chicago, Illinois. Guests will assemble at six o'clock on the third floor. Dinner will be served promptly at six-thirty. The cost is $2.00 per plate.

GEOGRAPHY IN ELEMENTARY SCHOOLS FROM 1776 TO 1860

The history of geography in the elementary-school curriculum was recently investigated by W. P. Boyle, A.M., Beloit, Wisconsin, for the period from 1776 to 1860. Previous to the Revolutionary War, geography was taught in only a comparatively small number of schools in the American colonies. When it was taught, it consisted largely of sailor, or nautical, geography. Progress in the introduction of geography into the curriculum was slow before 1720, even though it was included in the entrance requirements to Harvard in 1814. The period from 1820 to 1840 was one of steady gain in the popularity of the subject. The following decade, however, was the one characterized by the enactment of educational legislation expressly providing that geography be included in the elementary-school curriculum. Among the outstanding influences leading up to emphasis on geography were the "westward movement" and the growth of the American merchant marine. Both demanded a greater knowledge of geography than was necessary at an earlier date. The growth of national pride was also instrumental in the change, as were also certain economic and social changes, such as division of labor and the consequent interdependence of different classes of people and sections of the country.

Previous to 1800, and to a considerable extent during the decade ending in 1810, geography textbooks were used merely as readers. This period was followed by one of almost absolute memorization. This continued as the chief method until near the end of the third decade, when the influence of Pestalozzi and Ritter began to make itself felt. This influence can be traced in the work of such educational leaders as William B. Fowle, William C. Woodbridge, Horace Mann, Calvin E. Stowe, and Arnold Guyot. Through the influence of these and other leaders less attention was paid to memorization and more to training in observation and to the study of physical geography. Before the Revolutionary War and for many years after its close, English textbooks were used. The first American textbook in this subject was published by J. Morse at New Haven in 1784. This was followed by a long series of small 12mo books, containing a great deal of descriptive material which was not always quite true to facts. The earlier books contained a few small uncolored maps, but in 1843 there was published by Cornell a large flat volume like our modern geographies which contained many colored maps. Illustrations were almost entirely lacking before 1830, but from that time on they were numerous.

INTENSIVE STUDY OF INDIVIDUAL DIFFERENCES

F. W. Reeves, A.M., superintendent of schools, Winner, South Dakota, recently made an intensive study of individual differences through the use of tests in intelligence, reading, and arithmetic. The data justified the following conclusions: (1) The Haggerty Examination, Delta 2, is an excellent instrument for diagnosing the ability of school children. (2) The Illinois Examination Test is sufficiently accurate to make it of considerable value for diagnostic purposes. (3) The work of the school was greatly improved as a result of reclassifying the pupils into fast and slow groups and through the establishment of ungraded rooms.

FEDERAL STANDARDS OF EDUCATIONAL ADMINISTRATION

CHARLES H. JUDD
University of Chicago

This article is written in the belief that a careful study of the opinions of educational leaders will make it possible to define a policy with regard to federal participation in education which will command very general, if not universal, acceptance. Superficially, opinion is at the present time very much divided. It has been thought wise in some quarters to hush up these disagreements in the hope that Congress may be persuaded through the appearance of unanimity to do something and in the further hope that existing disagreements will disappear with experience in the use of such an instrument of federal promotion of education as Congress shall create. For better or for worse, the policy of persuading Congress to act at once has now been replaced by a demand for a thorough consideration of the problem of federal relations to education, and it is proper that a new effort be made among educational people to bring to the surface every existing shade of opinion and to analyze these varying views with the purpose of discovering, if possible, fundamental agreements.

A letter was accordingly written by the editor of the *Elementary School Journal* to some two hundred leading educators. The list included all state superintendents, one hundred city superintendents, twenty normal-school presidents, a like number of university and college presidents, and fourteen professors of education. Each person addressed was asked to write a brief statement of his views suitable for publication and was informed that the material would be used in the preparation of an article or a series of articles to be published in the *Elementary School Journal* or the *School Review*. At the end of a month replies were received from about eighty of the persons addressed. These replies will not be treated statistically, but will be used in part through direct

quotation and in part through summaries, in the effort to bring out all that is essential in them.

Two articles will be published by the present writer on the basis of the replies received. While these articles are appearing and afterward the pages of the *Elementary School Journal* and of the *School Review* are open to anyone who has a constructive contribution to the discussion or to anyone who dissents from the statements or conclusions here expressed.

One cannot read the carefully prepared statements of eighty educators without realizing at once that the question which is uppermost in the minds of all who have thought about federal participation in education is the question of control. Shall the federal government control in any degree the policies of education?

To this question there are two answers which, at first, seem to be wholly irreconcilable. On the one hand, there is a total unwillingness to concede to a federal agency any power of control. On the other hand, there is an equally emphatic demand that the present inadequacy of our educational systems be corrected through the exercise of the powerful intervention of the federal government. Two quotations from the letters received will illustrate the apparent antithesis in views. The first is from Professor Holton, of the Kansas State Agricultural College:

> If I am able to interpret the voice of the Middle-Western farmer, it is this: He is not opposed to, nor is he in favor of, a federal department of education as such. He has not given any thought to the proposition. He has other propositions which he thinks are vitally fundamental in the building of a permanent American democracy.
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> While he has not given any thought to a federal department of education in its relation to the permanency of our American democracy, he does have three deep-seated convictions, as I see it, on federal bureaus and departments in general. One of these convictions is that a federal bureau or department backed up with authority tends to crush out all local, democratic initiative. The second conviction is that the public schools must be kept under the administration and supervision of the state and local communities. The third conviction is that an appropriation granted to a federal bureau or department is like a schoolboy's snowball in its tendency to increase in volume as it rolls on, and that it is like the brook in going on forever.
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> The Middle Western congressman who "keeps his ear to the ground"—and most of them do—hears his master's voice, and, therefore, considers with fear and trembling any legislation in conflict with the above convictions.

After all, in the building of a democracy is not this as it should be? Isn't the Middle Western congressman right in the stand he takes? I think he is.

In my judgment the educators should not urge Congress to pass an act creating a department of education that is in direct opposition to the convictions of the public on the fundamentals of American democracy. This means, as I see it, that the department, when created, should not have any authority over state and community school systems and that it should not be granted any appropriation that would necessarily carry with it such authority.

Personally, I am in favor of a federal department of education endowed with administrative authority, powers, and duties similar to the administrative authority, powers, and duties now granted to the federal Department of Agriculture, and with no others. My reason for taking this stand is that any act granting wider powers to a federal department of education would be in direct opposition to the thinking public, or at least to that part of it known as the Middle Western farmer. He has a philosophy of life that is expressed in the phrase "the divine right of the people as opposed to the divine right of the kings or self-perpetuating bureaus." Right or wrong, this is the philosophy that guides all his thinking on legislation looking toward the creation of new governmental machinery that has anything to do with the public schools. If his convictions are out of harmony with the ideals of American democracy, it is our duty as educators to try to substitute new convictions for his old ones, rather than force upon him governmental machinery in opposition to his deep-seated convictions.

The second statement, from Superintendent Gibson, of Savannah, Georgia, is as follows:

The democracy of the American nation can be safeguarded only by a thoroughgoing, universal education of its citizens.

To create a unified nation the education of its people must be in accord with national ideals and standards. Ideals and standards are created by leaders, and ought to emanate from the law-making and policy-molding center of the nation.

The time has evidently passed when the education of the people of a nation can be left to localities or states or sections. The kind of education given in a large city of the Middle West is apt to be quite different from the type of education given in a city of the East, or on the Pacific Coast, or in the rural districts of the South, and all these develop types of citizens with varying attitudes toward the government and widely diversified abilities as citizens to serve in a democracy.

It is true that the thing called American spirit, or public sentiment, is created by the press, but the education of the youth for citizenship must be carried on in the schools, and the time has come when the schools must be more thoroughly nationalized.

Our experience with ward schools is bad. Independent local systems in states are a nuisance. Sparsely settled, poverty-stricken counties are unable to educate their people.

States differ very widely in standards and measurements of education. One section or nation is far ahead of another. As ward schools in a city should be done away with, so local independent control and meager support of the schools should be done away with.

The nation ought to control. The nation usually does things better than localities. States and counties and cities should aid, but the nation should lead in standardizing and controlling.

A federal department of education is the greatest need of America. But, before a law is formulated by pedagogues or politicians and worked through Congress, a composite commission of the ablest leaders in commerce, industrial labor, agriculture, education, and the defense forces should study the educational needs of America and report to the President or Congress for adequate federal legislation. The Constitution may have to be changed slightly or reinterpreted. Drastic changes in education ought to be made. The year should be utilized more efficiently. School properties must be used more economically. Teaching preparation must be provided adequately, and teaching service must be compensated more justly. Provision for universal national training for national service should be made.

Pedagogues alone cannot do the work and should not be expected to do it. It is a big job for the ablest minds in all the great departments of human endeavor.

When one reads two such statements, one inevitably finds one's self assenting to both. It is certainly true that local initiative must be conserved, and equally true that up to this time local initiative has been inadequate. Our problem, then, is to adopt some plan which promises to conserve and promote local initiative and at the same time to carry our schools to higher levels than they have yet reached.

In trying to formulate such a plan we must arrive at an accepted analysis of the present inadequacy of our state and local school systems. First, it is freely admitted on all sides that our schools need more information than they now have. There is no move which has been made toward the establishment of a department of education that does not assume or bring to explicit expression the hope that the federal government will contribute knowledge which we do not now possess. Many of the letters emphasize this, which may be called the scientific function of the department of

education. One letter, that of Mrs. Dorsey, of Los Angeles, may be quoted as elaborating this function more fully than does any other.

I desire to see a federal department of education organized on the simplest basis compatible with genuine service. There should be a minimum of machinery and highly paid officials (the best men and women, however, should be put in charge) and a maximum of expenditure in securing practical contributions to public-school education.

The most important functions of such a department should be: (1) The gathering of information about the status of public education, its accomplishments, and shortcomings. (2) The dissemination of practical suggestions and plans for the improvement of public-school administration and instruction.

The dissemination of educational information cannot be suitably accomplished through publications alone. This should be supplemented by the services of a standing advisory committee such as is outlined in the revised legislative measure relating to the establishment of a department of education. Such a committee, bringing together, discussing, and sifting the best educational practice of the entire country, would greatly facilitate the formulating of practical suggestions for the educational inspiration and guidance of school people. The members of this committee would be able to carry back to their states accurate knowledge by which to make comparative estimates of the educational accomplishments of their respective states and workable plans for the immediate improvement and advancement of public-school education.

Second, it is assumed by many that the federal government should add to its contributions of knowledge contributions of funds and that this can be done without impairing the autonomy of local school systems. Funds are thought of by many as the chief need of our American school systems if the desired progress is to be made. This view is clearly expressed by State Superintendent Harris, of Louisiana, as follows:

I believe that the federal government should assist in financing the elementary schools and the high schools throughout the nation. Unless we change the present system of requiring the local communities to bear most of the burden of school support, my impression is that we shall find it very difficult to provide proper school facilities for all the children. Under the plan now in operation the federal government does nothing in the field of elementary and secondary education, the state governments contribute on the average throughout the nation only 15 per cent of school support, while the local communities (counties, school districts, etc.) are required to pay 85 per cent of the public-school bill. This requires effort which in many instances becomes very burdensome indeed. I am strongly of the opinion that we should adopt the largest

possible unit of support; in other words, that the national and state governments should be required to advance 50 per cent or more of the funds needed to train teachers and operate the elementary and secondary schools.

I believe that so far as the federal government is concerned, a plan should be provided that will keep politics out of the federal office and will prevent the federal government from exercising any kind of control over the administration of education in the various states.

I do not believe that the Commissioner of Education should be a member of the President's cabinet. I think a better plan would be to have him elected by an overlapping federal board of education. The President should appoint the federal board, but should have no authority to dictate the policies of the board.

The federal government should, I think, make generous appropriations for the support of elementary and secondary education in the different states, but it should have no control over the expenditures of such funds, except to audit the accounts with a view to seeing that the funds are spent for the purposes for which they are appropriated.

I looked over the Towner-Sterling Bill a few weeks ago and was very favorably impressed with its provisions, except with that section which makes the commissioner a member of the President's cabinet.

It would be distracting at the present juncture to enter upon a consideration of the objections to federal subsidies. We shall, therefore, pass over these objections with a mere mention of their existence and turn to a third, and on the whole much more subtle and less frequently recognized, deficiency in our American education. Baldly put, our most serious deficiency is the lack of administrative standards. The case is clearly stated by Superintendent Cody, of Detroit, Michigan:

I feel that federal provision should be made for a central educational clearing-house that will function in a manner somewhat similar to the Interstate Commerce Commission.

The function of this commission, broadly speaking, would be to set up uniform methods of procedure in child and cost accounting, standardize definitions of function, etc. It would not have power to determine educational policy, for this function should be left entirely to the individual states.

This statement embodies the crux of the whole matter. Back of this letter is clear insight into the fact that we have at the present time no common standards of administration. The people of the United States do not know what ought to be the achievement of a good school, as contrasted with a poor school, in such matters as child accounting, either in city systems or in state systems.

We lack information; that is point one. We lack funds in many communities; that is point two. We lack administrative standards; that is point three. Point three must not be confused with point one or two. An analogy may help. Cities have long since discovered that knowledge of the principles of sanitation is not enough. People have to be compelled to convert knowledge into practice. Does anyone believe that regular attendance on schools will be accomplished through distribution of information? Does anyone believe that some of our backward states will adopt good standards because these standards are known to all of us?

The real question which has to be solved before we can have the right kind of a federal agency for the promotion of education is not alone the question of scientific studies, nor even the question of financial subsidies; it is this problem of securing adequate administration. When one examines the views for and against gifts of federal money, the disagreements are not about even so important a matter as suitable amounts for the various purposes. Disagreements have to do with the fundamental question of the setting up of federal standards. There is a very general recognition of the fact that our present schools are deficient in standards, but most people want for themselves one more opportunity to correct this deficiency through the exercise of their own wisdom.

Two letters may be quoted which make clear the anxiety which exists in many quarters about the dangers which may result from federal control if that is permitted to come in insidiously. There is no denial, be it noted, that improvement in standards is needed, but there is much doubt as to the source from which new standards should be derived.

The following statement was made by President Vinson, of the University of Texas:

> I am heartily in favor of federal interest in education, but I am equally opposed to federal educational subsidies upon a fifty-fifty basis, or the transfer of any control of education in this country from the states to the federal government. Whatever federal agency is to be erected for educational purposes should, in my judgment, be only national in character, and should have its influence by the weight of its decisions and contentions, and not because of any federal financial backing.

I do not want to see education in the United States standardized after any machine-made fashion, which I think would be the inevitable result of measures which are now pending before Congress. If there is opposition to the setting up of a national board of education after the analogy of the state boards of education, I should not seriously object to an executive department of education, provided the duties of this department are confined as indicated above.

To my mind, federal control of education in this country would sooner or later kill its peculiar development in the various states. This local initiative is the last thing which I should like to see destroyed.

President Rosier, of the State Normal School at Fairmont, West Virginia, argues the whole matter as follows:

I have been a supporter of the movement to establish a federal department of education and to secure the granting of such financial support to the school systems of the states as will stimulate the more rapid development of our state school systems. I realize the dangers involved in too great a centralization of administrative authority, and I would not be willing to accept federal support if there is to be any weakening of the state control of education. Federal control of education would be contrary to both the letter and the spirit of the Constitution, and in my judgment would be detrimental to the cause of public education. There is no doubt that extreme local control has retarded the development of public education in many districts and in some states, but it would be unwise to go to the other extreme and take away local responsibility.

The expansion of new departments and bureaus by the federal government has come in response to recognized needs. The Bureau of Education was established for the reason, no doubt, that it was felt at the time that the government was under some obligation to assist in promoting public education. This Bureau, as all will agree, has rendered very fine service in gathering educational data and in unifying the educational plans and policies of the country. While there has been more or less discussion of a federal department of education, there was not any deep or universal feeling in regard to the matter until the organization of a national army brought out the fact that we are a nation of sixth-graders, and that in any great national movement depending upon the education and intelligence of the masses, our educational systems have been tremendously inefficient and inadequate. We have been forced to the conclusion that higher standards of intelligence and better systems of public education are not only a state, but a national, obligation. I believe the time has come when the federal government should reorganize its responsibility in relation to the whole problem of education. This can best be done by creating a federal department of education and by supporting it and directing its activities in accordance with the spirit of the Constitution. There are many great problems confronting our country today, but there is none more important

or more essential to the maintenance and integrity of our institutions than public education. Personally, I am strongly in favor of limiting expenses for armament and increasing outlays for the diffusion of knowledge and the raising of our standards of national intelligence.

I would say, then, that I am in favor of the establishment of a federal department of education, with a secretary in the President's cabinet, and with an adequate organization for promoting all sorts of educational activity. I do not see any objection to federal subsidies granted for the purpose of stimulating greater state and local support of public education. This feature is not absolutely essential in the establishment of a department of education, but it seems to me it is highly desirable if the federal government desires to raise the standards of education and to promote greater intelligence among the people. This ought to be done without in any way lowering the authority of the states and the responsibility of local units. In conclusion, I would say that I am in favor of every movement designed to emphasize the value of education, whether it be national, state, or local.

A final quotation, with which this article will close, reaches a conclusion which certainly must be considered before any department is created. The conclusion, it may be said by way of anticipation, is not a negative one, as has been the conclusion of much recent discussion about federal control, but affirmative. This quotation opens up for consideration a view which is worth serious pondering. A federal department is justified by the fact that there is something for the federal government to do which the states cannot do. Instead of the abhorred phrase "control of education," can we not use a new phrase, "distribution of functions"? The federal government can perform certain functions which local communities cannot. It is our duty to discover these proper federal functions and then to set up the machinery for exercising these functions with a federal agency. Will it not be better to put an end to anxieties about federal encroachment by defining federal duties? With duties must go powers. The case is argued somewhat fully by Professor Morrison, of the University of Chicago, who, it may not be out of place to remind the reader, has accumulated educational experience in two New England state departments of education.

In the mind of the present writer, our clear course is to erect a department of education as a cabinet ministry after the accepted American plan. To do so is to follow in a beaten pathway which has been explored and found good.

To attempt any other is to experiment, or at best to follow paths which have not yet proved themselves.

The cabinet departments have been developed in response to three different types of needs.

First of all, historically, are those which administer exclusively federal undertakings, such as foreign affairs, the national military defense, the post-office.

Second are those which owe their origin primarily to segmentation of the older departments. The Interior, and Commerce, and Labor in their later history will serve as illustrations.

Finally, all of the more recently constituted departments have come into existence in response to a conviction that government should systematically foster certain major activities of the people, even though such activities may in their natures be essentially private and not public at all. So Agriculture, and Commerce, and Labor. Once established, each of the departments of this class has found itself amply justified by executive functions which had originally been misplaced in some other department, chiefly in the Treasury, or by new executive duties made necessary by the unavoidable march of social and political evolution.

Every argument which justified the erection of a Department of Labor, or Commerce, or Agriculture led logically to the erection of a department of education as the first of the new departments. Education has been recognized as a matter of public and, more than that, of governmental concern, by nearly all the state constitutions. A long array of decisions of law courts have affirmed and reaffirmed the principle that education is a matter of practical governmental concern. Nobody could contemplate the utterances of statesmen, publicists, philanthropists, and the gifts of benefactors and safely assert that education has been from the earliest days of the republic other than a matter of major public concern, as much so certainly as agriculture, or commerce, or labor. More than that, there exist now, and have existed for many years, sound administrative reasons for establishing a department of education, to at least as pronounced a degree as obtained when the three comparable departments were erected. The purely educational activities of the federal government are already very extensive. They are scattered all the way from the War Department to the Department of Agriculture, and repose in part in independent commissions and boards. They go on in Washington. They ramify into the states. Throughout the entire area are expensive duplications, waste, inefficiencies. These activities should obviously all be gathered into one department properly equipped to handle them and professionally interested in handling them well, even as has been done in the cases of agriculture, and commerce, and labor.

Nor can the issue be avoided by asserting that education is inherently a matter of state concern. So was banking; so was commerce until transportation gave life to the interstate-commerce clause; so were a multitude of con-

cerns which the march of events made federal as well as state concerns. Agriculture and labor were not even state concerns except as everything is a state concern within the police power. Even though not a dollar of public funds was appropriated for the support of schools, education would still be as much a major concern of the American people as agriculture or labor, and in the same sense as they. Precisely the same argument which denies that education is, of right and in the nature of our society, a federal concern leaves its proponent bound to assert that it is a concern of the school district and of that alone. And precisely the same argument is used by those whose minds are parochial in their outlook, incapable of thinking in terms of the state, not to say in terms of the nation.

But federal participation in education will deliver the schools over to politics. I can recall no instance within my observation in which any plea for better organization has not brought forth the same argument, but always from the mouths of self-seeking politicians and from the timidly righteous souls who are the natural backers of such politicians. Of course, there will be politics. There always is and always will be when men and women attempt to govern their own affairs in democratic fashion. The choice is between the political thought of the local horizon, that which is shut up within the state boundaries, and that in which the whole nation is drawn into council. We need all three. At the present we are estopped from thinking nationally on educational matters for want of a properly accredited and supported national leadership.

Why a department rather than a board or commission? Because in 132 years of the federal government the cabinet form of executive, in spite of imperfections, has worked well. Because, on the whole, our experience with state and city governments has led the more forward-looking to trend in the direction of the cabinet executive and away from the board form of executive. Because the cabinet form tends to co-ordinate, while the board form tends to dissipate. One board leads to another until the government is bewildered in boards and commissions. Such has been the experience of the states, and the present federal tendency seems very properly to be to create no new commissions or boards.

But secretaries come and go; there is no permanency. It is not essential that there should be permanency in the secretaryships. Indeed, it has probably been fortunate for the country that there has not been permanency. It is of the genius of our institutions that the purely political aspects of our leadership shall change, but that the technical and professional shall abide. That is the way in which we have on the whole avoided fairly well the evils of bureaucracy. Education has a profoundly political import in the highest sense of the term, and perhaps our greatest need, certainly one of our greatest needs, is frankly and eagerly and intelligently to acknowledge this aspect.

The President's cabinet has been one of our chief opportunities for the exercise of the largest and truest statesmanship. Our greatest foreign ministers

have not as a class been professional diplomats, nor have our greatest war secretaries been professional soldiers, nor our greatest finance ministers brilliant in the technical aspect of business. But they have given us an expression of democratic achievement which it is gravely doubtful that professional permanent officials could ever have given. We cannot doubt that a place at the President's council table would call forth the element which we somewhat lack in our public educational effort, educational statesmanship on a parity with our best achievements in finance or foreign affairs.

Nor is brevity of tenure in the secretaryship incompatible with permanency in the purely professional and technical service of the department. Men seldom achieve marked success as politicians and professional workers at the same time. In a democracy every corps of high-grade technologists needs a superior who can give them their chance to do their work on a high level, and who can rightly place their work in its relation with the political functions of government. Some of the best scientific work in the world has been done within our federal departments by professional workers whose places have been permanent and, because of a changing political head, have been delivered from the distracting and belittling need of self-advertising, wire-pulling, log-rolling, and all the give-and-take which political democracy makes inevitable. Such, on the whole, has been the working out of our cabinet system, and we may confidently expect that such would be the outcome with a secretary of education in the cabinet. That we should have good secretaries and bad secretaries, statesmen, and mere twaddlers is to be expected. So do we in all lines of activity. That has been our history and probably always will be our experience, but in the long run the good has outweighed the bad, the mediocre has stabilized the work of the genius, and the not infrequent minister of surpassing power has carried us forward to a point which any sane political thinker would hesitate to give up in exchange for any other system the world has yet tried.

PROJECT TEACHING: PUPILS PLANNING PRACTICAL ACTIVITIES. II[1]

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III. HISTORY OF RECENT OPPORTUNITIES FOR PRACTICAL PLANNING BY PUPILS—*Continued*

B. DEVELOPMENT OF PROJECT TEACHING IN SPECIAL APPLICATIONS

Manual training. Early sloyd system of imitative practical exercises.—Perhaps the first school subject to be extensively modified in actual practice by the "new education" of 1900 (which we described in the preceding article) was manual training. In the earlier development of this subject in this country, the exercises in woodwork had frequently been patterned after those of the Swedish sloyd, a system which originated about 1875. It was introduced into Boston about 1886 and was soon widely adopted in American manual-training schools. Among the articles made by pupils in this system were such practical things as a blackboard pointer, a penholder, a chopping board, a flowerpot stand, a hatchet handle, a tool rack, a book stand, etc. These articles were made in regular order by each pupil largely in imitation of the demonstrations by the instructor. I had the good fortune, as a high-school boy, to enjoy two years (1894–96) of such formal carpentering, two hours a day, in a manual-training school in Cincinnati. I made certain practical articles which are still in daily use in my boyhood home. During this practice I developed skills which have frequently proved useful in later life.

Project-planning advocated about 1900.—There was, however, very little of the element of original planning by the pupils in the

[1] The first article defined project teaching as suggested in this title, gave recent examples to show how teachers and pupils attack a project, and traced the origin of the recent emphasis on practical planning to the "new education" of about 1880–1905 sponsored by Colonel Parker, Dewey, and others. Both articles will be reprinted under one cover. Reprints may be purchased after March 15, 1922, from the Department of Education, University of Chicago, for 25 cents each postpaid; in lots of 25 or more up to 100, 20 cents each; in lots of 100 or more, 15 cents each.

system of Swedish sloyd practical exercises. On this account, the exercises began to be strongly condemned by various leaders of the "new education" about 1900.

Dewey on the "psychology of occupations."—Probably the most significant theoretical expression of the views on which the criticisms of the sloyd were based was Dewey's article entitled "The Psychology of Occupations," in which he defines an occupation as "a mode of activity on the part of the child which reproduces, or runs parallel to, some form of work carried on in social life." In speaking of the methods to be used in teaching occupations, he says:

> It is possible to carry on this type of work . . . . so that the entire emphasis falls upon the manual or physical side. . . . . This is the inevitable tendency wherever, in manual training for instance, the mastery of certain tools, or the production of certain objects, is made the primary end, and the child is not given, wherever possible, intellectual responsibility for selecting the materials and instruments that are most fit, and given an opportunity to think out his own model and plan of work, led to perceive his own errors, and find out how to correct them—that is, of course, within the range of his capacities.[1]

In the further discussion Dewey emphasizes the desirability of more "personal experimenting, planning, and re-inventing" in pupils' manual activities.

Colonel Parker opposed "logical sequence."—Similar views were debated in the meetings of the manual-training teachers as reported in the early volumes of the *Manual Training Magazine* (1901–3). Colonel Parker was frequently a vigorous speaker at these meetings and advocated a change from the "logical sequence" of the sloyd exercises to activities involving more original thought by the pupils.

C. R. Richards on pupil-planning.—One of the most effective pleaders for more pupil-planning in manual training was Professor C. R. Richards, whose strategic position as head of the department of manual training at Teachers College, Columbia University, gave him wide influence. Richards talked fluently the language of the "new education," especially emphasizing "self-realization" and "education through expression." He used the term "project"

[1] *Elementary School Record*, I (April, 1900), 83. Reprinted in *The School and Society*, p. 132. Chicago: University of Chicago Press, 1915 (revised).

occasionally in his early papers to designate the pupil's exercises, and in his later papers (particularly in the *Teachers College Record*) he used it predominantly. His ideas concerning the place of pupil-initiative and pupil-planning are brought out in the following quotation from an article in the *Manual Training Magazine:*

> To bring the element of self-expression into handwork does not mean that we are to turn the pupil loose to exercise whim and fancy unrestrained. In handwork, no more than in any other form of school work, should the pupil be free from suggestion and guidance by the teacher. . . . . Self-expression does not mean that the pupil is expected to develop the entire plan and design for each thing done. This would be too much to expect from the unformed standards of judgments of young children, and could result only in crude projects and unsatisfactory work. But recognition of this element may mean that the general plan to attain an end will be developed from the pupils. It may mean the adjusting and modifying of details within this general plan by the individual pupil; and it may mean the working out of ways and means to achieve this plan. It may mean these or many other things, but it should always mean that the worker's own thought and feeling are contributing in a real fashion to the end for which he is working.[1]

From sloyd to projects and then a compromise.—The change from the systematic formal exercises of the Swedish sloyd to project exercises in which pupils did considerable original planning had taken place in a number of woodworking courses throughout the country by 1910. For example, about that time a teacher of manual training in a large city said to me,

> We have considerable project work now. Thus, if a boy says he wants to make a coaster wagon, we tell him he may do so if he can show us suitable plans. However, the difficulty is that soon all of the boys are making coasters just like the first one, and it becomes purely imitative work just as in the formal exercises.

Many experienced observers of these reformed project courses felt that less tool skill was acquired than in the more systematic courses. Consequently, there was a reaction and a tendency developed to provide for both systematic tool practice and project-planning in certain institutions.

Kindergarten. From formal constructions to pupil-planning and experimenting.—Closely related to the change in manual trainin under the influence of general Froebelian principles is the change in

[1] C. R. Richards, "Handwork in the Primary School," *Manual Training Magazine*, III (October, 1901), 3.

kindergartens from highly systematized formal constructions to activities in which pupil-planning plays a much larger part. Dewey's influence was a large factor in bringing about this change. His conception of the need for it and of its harmony with Froebel's principles is expressed in the following paragraph which continues the quotation concerning Froebel's principles in Dewey's Chicago school given in the preceding article:

> This attempt, however, to assume what might be called the kindergarten attitude throughout the whole school makes necessary certain modifications of the work done in what is more technically known as the kindergarten period—that is, with the children between the ages of four and six. It is necessary only to state reasons for believing that in spite of the apparently radical character of some of them they are true to the spirit of Froebel.[1]

The nature of the reformed kindergarten practice which Dewey helped to bring about is well illustrated in the following quotation from the 1917 course of study of the University of Chicago Elementary School.

> A means of organization is through objective projects, resulting in tangible, relatively permanent play centers. These are the house itself with its kitchen as the central feature, the grocery store, and the garden or farm.
>
> When the children first come to school, they find, among other attractive things, such toys as dolls, some doll furniture, kitchen utensils, and dishes. They play with these freely, as they do also with blocks, sand, and clay. The teacher may easily lead this play in the direction of cooking and serving plays. There soon begins to take form in one corner of the room, therefore, a miniature kitchen or dining-room. The teacher then produces a screen house with a door and windows, which serves to inclose this little room, which may now stay in place as long as it is wanted.
>
> This playhouse now becomes the center of great interest and activity. Clay utensils and dishes are made, a cupboard to hold them is built of blocks, paper is cut for the shelves, paper doilies are cut and fringed, napkins are folded, and a meal is planned. A trip to the grocery is necessary to buy a cereal, which is then cooked and served by the children. This trip to the store suggests the building of a grocery store in the classroom. This now becomes the second problem or project. It calls for much planning and experimenting and results very naturally in group work, since the final product is a structure made of blocks and boards which is large enough for three or four children to play in at the same time. Another excursion is needed to get suggestions as to how to make shelves, the counter, and show windows, and to learn what a

[1] *Elementary School Record*, I (June, 1900), 144. *The School and Society*, p. 112. Chicago: University of Chicago Press, 1915 (revised).

grocery store really carries for sale. Numerous lesser problems present themselves for the children's solving: vegetables and fruits of clay must be shaped and colored accurately enough to be readily recognized, and baskets made to hold them; paper bags must be contrived; pictures must be made to show what canned goods are in stock; pocketbooks and money for the buyers must be provided and delivery wagons constructed. These are not made from patterns or models, but are worked out by the children and the results tested by actual use in playing in the grocery store. The teacher aims so to direct the handwork that the children will grow steadily in their power to solve simple problems and handle material skilfully.

The third project, the farm or garden, is subordinate to the other two, partly because it is less familiar, partly because it is taken up again in the first grade. The oldest children sometimes make a miniature farm in the sand table, showing the grain fields, vegetable garden, orchard, and the main buildings and animal inclosures and shelters.[1]

A notable series of papers which express further the change in kindergartens from formal imitative exercises to projects permitting of greater pupil-planning was published in the *Teachers College Record* for January, 1914 (Vol. XV), under the editorship of Miss Patty Hill, one of the leaders of the progressive reform movements among American kindergartners.

Assembly programs.—A third phase of school work in which we early find project-planning by the pupils being introduced is in assembly programs. As occasions for formal recitations and singing, such programs have been common from early times. The change to pupil-project programs, however, in which the pupils plan and devise the program and its activities, represents a radical addition to the training provided by such occasions. One of the most highly developed centers for such training was the school of Colonel Parker; and, today, probably the best account of such practice is found in the *Second Yearbook* (1913) *of the Francis W. Parker School.*[2]

Construction and dramatization in history and geography.—The assembly programs which the pupils devised frequently contained the presentation before the audience of some construction project from history or geography as illustrated in the pictures in the preceding article. Often the program included the dramatization

[1] *Elementary School Journal*, XVII (February, 1917), 401–2.

[2] Chicago: Francis W. Parker School, 330 Webster Avenue. $0.45.

of some phase of history or literature as illustrated in the examples described in Section II of the first article. Similar projects frequently furnished centers for much classroom work in the social studies as illustrated in the kindergarten example given above.

Civic campaigns.—With the appearance of Dunn's *The Community and the Citizen*[1] in 1909, the attention of many teachers of civics was called to the possibility of active, practical pupil-undertakings in the civic life of the school or the local community. Hence, "clean-up" campaigns and other useful drives began to be frequently planned and carried out by pupils under skilled teacher-direction.

Summary of special developments to this point.—Reviewing the special examples that we have given to illustrate the historical development of project methods, we see (1) that as early as 1900 there was a clear-cut agitation for the introduction of more practical planning by pupils in manual training and that the term "project" was early used by Richards to designate pupil-exercises in this subject; (2) that a revision of kindergarten practices along similar lines was agitated about the same time and was gradually effected in certain progressive schools; (3) that assembly programs (particularly in Colonel Parker's schools) early furnished practical occasions for pupil-planning; (4) that construction and dramatization projects soon appeared in history and geography; (5) and that Dunn's work in civics (1909) tended to introduce some project methods in that subject. It would be possible to determine the origin of similar influential starting-points for project teaching in science, English composition, and other subjects. Sufficient has been given, however, to illustrate the historical development of project methods in particular subjects. Hence, we shall give only one further example, namely, the development of project methods in high-school agriculture, a subject in which project teaching has secured a somewhat precise legal meaning through the influence of the Smith-Hughes law for aiding vocational education and its interpretation by the Federal Board for Vocational Education.

Home projects in agriculture. Illustrates our definitions.—The description of project teaching in agriculture will illustrate very

[1] A. W. Dunn, *The Community and the Citizen.* Boston: D. C. Heath & Co., 1909. Pp. x+266.

well some of the points of definition with which we opened our articles, namely, (1) that, according to the dictionary, "a project is something of a practical nature thrown out for the consideration of its being done" and that "to project" means "to contrive, to devise, to scheme"; (2) that a pupil-project is a unit of practical activity planned by the pupils (or pupil); and (3) that a pupil-project gives the pupils practice in practical planning and makes them responsible for devising ways and means and selecting and rejecting methods of achieving some definite practical end.

Transfer from technical social life to school described by the Federal Board for Vocational Education.—Furthermore, our description of project teaching in agriculture will show how the idea of projecting a practical plan was gradually taken over from the general social situation (where the term project was used with its ordinary dictionary connotation) into the supervised practical work in agriculture in high schools, where it retains a meaning very similar to its use in general practical affairs. These facts come out clearly in the following quotation from the pamphlet on "The Home Project as a Phase of Vocational Agricultural Education" issued in September, 1918, by the Federal Board for Vocational Education:

> For many years the term "project" has been used [among scientific workers of the Department of Agriculture] to designate carefully planned investigations in agricultural science covering a considerable period of time, frequently demanding several years for their completion. Such plans, including aims and methods, have been submitted by the agricultural experiment stations of the several states and approved by the Office of Experiment Stations in the States Relations Service of the United States Department of Agriculture.
>
> More recently the term "project" under practically the same conditions has been applied to the projects in demonstration work and extension teaching carried out under the Smith-Lever Act. The term carries with it the idea of a program of importance, of some duration, and an expectation of certain tangible and valuable results.
>
> In connection with the teaching of agriculture in secondary schools the idea of projects *at home*[1] crystallized and took on the name of "home

[1] Examples of home projects are the following: growing an acre of corn, or cotton, or some other crop; raising chickens, or cows, or other animals; improving the dairy barn or other farm buildings; keeping records of a dairy herd to improve it, etc. The Federal Board says, "Encourage the student to choose a sufficiently ambitious project. If he is in earnest, he will prefer a man-sized task to a childish or miniature project. A high-school boy knows he is not doing much farming if he is caring for one pig or rearing six chicks or managing a very small garden" [p. 11].

project" about 1908 in Massachusetts, receiving the sanction of the State Board of Education under suitable legislation in 1911. This plan, with modifications which do not change the principal points of the definition, had been adopted in most of the states which had constructive legislation on agriculture in the secondary schools previous to the enactment of the Smith-Hughes Act. In its work on secondary and elementary school agriculture, the United States Department of Agriculture had previously accepted the prevailing conception of the home project, issuing several publications on this basis.

Since the Federal Board for Vocational Education intends to develop and extend this plan, it seems undesirable that the term "home project" should be applied to less important exercises.

It is desirable also that the term "class project" shall be applied only to rather ambitious, well-planned lines of work for which we might use the term "home project" if they were located at home.[1]

Rules for administering home projects.—The bulletin from which this quotation is taken outlines in detail the conditions under which "home projects" must be conducted in order to be approved. A summary view of these conditions is given in the following quotation:

THE ESSENTIALS OF A HOME PROJECT

1. A carefully drawn plan covering a considerable extent of time, with a definite aim, including some problems[2] new to the pupil and outlining with sufficient detail the methods to be employed. This plan should be written and should be an exhibit in connection with the second essential.

2. An agreement between parent, pupil and teacher, based upon the plan already prepared and so prepared as to eliminate later disagreements. The boy's financial privileges should be clearly stated.

3. Instruction in the school both in regular course and in special individual study to the end that the project work may be done intelligently and that the home may furnish the kind of laboratory practice best adapted to the school work.

4. Detailed records of method, time, cost, income, and other important factors which shall finally be summarized in—

[1] "The Home Project as a Phase of Vocational Agricultural Education," pp. 7-81 *Agricultural Series No. 3, Bulletin 21.* Washington: Federal Board for Vocationa. Education, 1918.

[2] The problems which a student confronts in doing his planning are illustrated by the following from a poultry project: "1. Shall I purchase pure-bred fowls or must I take over the farm flock as a basis for improvement? 2. Shall I aim at producing eggs for market, meat for market, breeding stock and eggs, or some other end? 3. Shall I be obliged to construct new houses, to renovate and remodel old houses, or may I use good houses now on the farm? 4. Shall I plan to grow poultry feed as a correlated plant project?" [p. 11].

5. A report including both a story and a complete accounting for the entire project period.

6. Supervision by a competent instructor of such a nature as to help the student to succeed in his project, to encourage him at times when difficulties arise and to hold him to his agreement; incidentally to impart instruction supplementing that of the classroom.

The supervisor should demand records of the student and should in turn make reports to his supervising officer.[1]

Conclusion of historical view.—The examples which we have presented of the introduction of project teaching in manual training, the kindergarten, assembly programs, history, geography, civics, and agriculture illustrate how the movement has affected actual school practice from 1900 to the present. They show how the "new education" which was stimulated by the broader Froebelian teaching and which was propagated by Teachers College, Colonel Parker, and Professor Dewey, has gradually secured vigorous recognition in the actual project practice in many American schools.

IV. VALUES OF PRACTICE IN PLANNING PRACTICAL ACTIVITIES

Develops skill in practical planning.—The most obvious values of such project teaching as we have described are clearly implied in the fact that skill in the planning of practical activities is very necessary and useful in the world at large. Successful inventors, designers, architects, engineers, organizers, managing editors, dramatic producers, practical promoters, executives, farmers, housekeepers, etc., all have to have skill in planning practical activities. Project teaching anticipates this need by giving pupils practice in such practical planning in the ordinary school, instead of leaving it all to the "hard school of practical experience" after graduation.

Appeals to practical and executive instincts.—In addition to the obvious direct educational value of such practice in practical planning, project teaching has the additional value of securing the pupils' attention through appeals to certain practical and executive instinctive interests, such as the instinctive interests in construction, problem-solving, communication, the management of people, etc.

[1] *Ibid.*, p. 9.

Such appeals, however, are not peculiar to project teaching since many other types of school activities may appeal to these same interests.

V. LIMITED SPHERE OF PROJECT TEACHING

Not the sole type of valuable activity and learning.—As we have defined project teaching, it is only one type of procedure needed in pupil training, not the sole type. There is much valuable activity and learning in social life (including the school) that does not consist of planning practical activities. In fact, a large part of the work and learning of artisans, clerks, bookkeepers, librarians, teachers, farmers, housekeepers, even executives and scientists, consists in the routine juggling of mental and material products. Hence we have a large place in the school for the learning of organized facts from textbooks and for drill in acquiring routine skills. It is quite significant that while the enthusiasm for project teaching is sweeping the country, at the same time the scientific investigators of methods of teaching reading, spelling, handwriting, and arithmetic are placing special emphasis upon the scientific diagnosis of each pupil's needs in each skill and the prescription by the teacher of specific practice exercises suited to each pupil's peculiar needs and deficiencies.

One of the social objectives and one of the modes of learning.—By conceiving project teaching as the planning by pupils of practical activities, we thus avoid the danger of overemphasizing it to the exclusion of other social objectives and other modes of learning. Skill in planning practical activities thus becomes one among many co-ordinate objectives of the school; and practice in such planning becomes one among several forms of learning.

VI. TECHNIQUE IN PROJECT TEACHING

Teacher needs wide knowledge, executive ability, and skill in directing problem-solving.—The successful direction of the practical planning of pupils calls for greater knowledge and skill on the part of the teacher than most other forms of teaching. (1) The *wide knowledge* needed is illustrated by some absurd mistakes in matters of scientific and historical fact which I have observed in the project teaching of even highly skilled, experienced teachers. These

mistakes arose from the fact that the solution of the practical project problems with which the pupils were concerned carried the class into scientific and historical fields where the teacher was not well informed. (2) In managing *group* projects, the teacher commonly needs skill in organizing and directing subdivided labor. She needs to be able to direct the organization of committees and to keep track of the varied activities of individuals who have been assigned special phases of the project. Thus, project teaching requires greater *executive ability* in the teacher than textbook recitations or routinized drill. (3) Finally, the teacher needs skill in guiding pupils in *problematic thinking*. Such skill is discussed at length in the chapter on "Problem Solving" in the author's *Types of Elementary Teaching and Learning*.[1] As brought out there, we find that the successful direction of problem-solving involves on the part of the teacher skill in getting the pupils to do each of the following: (1) To define the problem clearly; (2) To keep the problem in mind; (3) To make a variety of suggestions; (4) To criticize and evaluate each suggestion; (5) To organize the thinking systematically and to summarize from time to time its net outcomes.

VII. CONCLUSIONS

Regrettable absence of precise knowledge concerning practical planning.—It is to be regretted that we cannot give a more precise scientific discussion of giving pupils practice in practical planning than we have done. Unfortunately, we have little quantitative evidence to indicate how large a part practical planning plays in the lives of typical individuals as contrasted with the part played by the routine juggling of mental and material products or with mere leisurely rumination and enjoyment. Furthermore, we have little quantitative evidence to indicate the possibilities of improving pupils of various mental endowments in their ability to carry on practical planning; the best devices to use; and the cost and value to society of the improvements effected. About all we know is that practical planning or projecting does play an important part in the world's activities and that some schools are giving pupils practice in it along the lines described.

[1] Boston: Ginn & Co. (in press).

Contrast precise objective investigations in handwriting, etc.—In contrast with this confused condition we may note the illuminating progress that has been made by mathematically precise investigations of the social objectives and of the best methods in teaching handwriting, spelling, and beginning reading. Here the "newer education" of 1910–20, using exact statistical and experimental methods, has determined, for example, that quality 60 on the Ayres handwriting scale is all that is needed for ordinary business purposes; that in much skilled handwriting the letters are formed predominantly with the fingers; that some 3,000 common words are all a pupil needs to know how to spell for ordinary social purposes; that fifteen minutes a day of specific snappy drill is all that is needed in either handwriting or spelling in order to attain these objectives; that pupils who have not had good specific training in phonetics are likely to be inferior in accurate reading; and dozens of other reliable conclusions, such as are summarized in the *Eighteenth Yearbook of the National Society for the Study of Education, Part II.*[1]

Problems needing investigation: social frequency, mental abilities, cost, etc.—Obviously, similar precise knowledge should be obtained concerning the social needs and standards and the best methods for giving pupils practice in practical planning. Such knowledge can come only from precise statistical and laboratory studies which would reveal such items as the following:

1. What persons in various occupations are primarily routine workers and what ones are primarily responsible for practical planning? Many subordinate problems come under this, such as the amount of routine work required of the thoughtful manager of enterprises; the number of occasions for practical planning that occur in the work of the routine bill clerk, sales clerk, lathe operator, etc.

2. What degrees of skill in practical planning can be acquired by persons of various degrees of mental ability (imbeciles, morons, and backward, average, and superior persons) from various amounts

[1] "Fourth Report of the Committee on Economy of Time in Education," *Eighteenth Yearbook of the National Society for the Study of Education, Part II.* Bloomington, Illinois: Public School Publishing Co., 1919.

of instruction? For example, Goddard states that a certain grade of feeble-minded person can learn to use machinery and care for animals but cannot plan.

3. What are the specific elements of skill in practical planning and how can these elements of skill be best practiced?

4. How can we measure the initial ability of each pupil in practical planning (i.e., before instruction) and the amount of improvement effected by the practice provided?

5. What is the cost to society of the improvements achieved with each grade of mental ability and the consequent desirability of continuing or discontinuing the training?

6. How much technical knowledge and skill should be given pupils before they are given practice in practical planning in each particular subject or vocation? Here, for example, profitable investigations could be conducted in successful schools for training architects, since the work of the latter involves so much planning and designing and also so much technical skill and precise technical information.

Inspiration from a great city planner.—It is likely that while the results of such investigations would lead to some skepticism concerning the value of practice in practical planning for students of low intellectual endowment, they would also greatly enhance our estimation of the value of such practice and training in the case of students possessing considerable natural talent for the original designing of practical enterprises. For the latter, we may well set up such educational objectives as we see realized in the achievements of great practical planners like Daniel Hudson Burnham, architect and planner of cities, who dominated the plans for the Chicago World's Fair, designed the first skyscraper of Chicago, the Flatiron Building of New York, and the famous city plans of many great cities, including the ambitious and beautiful project for the city plan of Chicago.

In Burnham's own words, we may find the large social value of skilled planning suggested in the following quotation of his motto for city planners:

> Make no little plans; they have no magic to stir men's blood and probably themselves will not be realized. Make big plans; aim high in hope and work,

remembering that a noble, logical diagram once recorded will never die, but long after we are gone will be a living thing, asserting itself with ever-growing insistency. Remember that our sons and grandsons are going to do things that would stagger us. Let your watchword be order and your beacon beauty.

Note on the "new education."—Further light on the Froebelian element in the "new education" is shed by the statement that W. N. Hailman, a noted Froebelian, conducted a magazine, entitled the *New Education*, in Milwaukee, for six years beginning in 1876. Its editor said that Froebel and Herbert Spencer were the principal exponents of the "new education," and that the journal was established to aid in the propagation of the views of Froebel and Spencer, particularly of the former. For further details see N. C. Vandewalker, *The Kindergarten in American Education*. New York: Macmillan Co., 1908. Pp. 32–33.

Practical publications.—For teachers who desire a variety of practical suggestions for the actual organization of projects, the following publications are suggested:

"Second Report of the Committee on New Materials of Instruction," *Twentieth Yearbook of the National Society for the Study of Education, Part I.* Bloomington, Illinois: Public School Publishing Co., 1921. $1.30. Over two hundred examples briefly described, from the kindergarten through the junior high school.

Yearbooks and studies in education of the Francis W. Parker School. Chicago: Francis W. Parker School, 330 Webster Avenue. $0.45 per volume. While each volume contains specific accounts of projects, Volume II (1913) on "The Morning Exercise" and Volume V (1918) on "The Course in Science" are particularly full of concrete descriptions of the actual organizing of projects.

A COURSE IN HANDWRITING. II

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In the first article the directions and exercises for the first four weeks of a course in handwriting for Grade I were presented. Before proceeding with the presentation of the lessons for the remainder of the first grade, we may notice some of the characteristics of the course as they are exemplified by the first year's work.

Adaptation to age.—The difficulty of the work in handwriting is tempered for the young children, first, by employing large writing. In the first grade it is recommended that the paper be ruled with lines one inch apart and that the small letters be three-eighths of an inch high. The size may be reduced somewhat toward the latter part of the year. Large writing permits of the use of coarse materials and does not demand as great accuracy as small writing.

In the second place, the speed of movement required is much less in the beginning than later. The first time the metronome is used, in the second month of the first grade, it is set at 50 beats a minute. At the end of the course it is set at 176 beats a minute. The writing movement should never be so slow as to lose its continuity but, on the other hand, it should not be so fast as to cause the child to lose control of the stroke. This is the principle on which the choice of rates of writing has been made.

Third, materials are recommended for the primary grades which are easy for the child to use. These include the blackboard and chalk, rough-surfaced paper in large sheets, and soft pencils.

Content and organization.—The letters and words in the exercises are selected on the basis of two considerations. First, the vocabulary is carefully chosen from among the words in frequent use by the children for whom the exercises are designed. The sentences and literary selections introduced in the latter part of the year are selected on the same principle.

The second consideration relates to the form of the letters and the type of movement by which they are written. This governs the order in which the letters are introduced. Thus the letters in which the movement is opposite to that of the hands of a clock are grouped together and introduced before those in which the movement is the reverse. The letters which are made by a mixed movement come last. In the early part of each year's work only words which contain letters already practiced are included. Similarly, the early sentences contain only words already practiced.

Much repetition is given, but practice on the same exercise is spread over a number of days or even weeks, and several exercises are used on a given day. This is done to avoid monotony and to take advantage of the benefits of distributed practice.

Method.—Good position and natural, easy penholding are insisted on from the start and continually. A free and continuous movement of the hand across the page is one of the chief objects of practice and is procured by the wide-spaced exercises. A combined movement of the hand and fingers, with the fingers taking the chief part in forming the letters, is recognized as the natural one. The writing movement is made regular, smooth, and fluent by means of rhythm brought about by writing to a count, not merely movement exercises, but also letters and words. The count on the earlier exercises of each grade is carefully indicated by numbers written beside each combined upward and downward stroke. Each exercise must be written to count by the teacher on the blackboard. Care must be taken to see that the children follow the count.

The exercises and directions for the first month have been given. The lessons for the rest of the year will have to be greatly condensed. Of the exercises themselves enough examples are given to illustrate new forms or to indicate the count. The full list of the exercises is given below in the form of verbal statement. Words or letters are not to be joined unless so directed. The number of times on a line is indicated by a number in parentheses, and joining is indicated by the letter j.

15. *b* (3) j
16. *but* (2)
17. *be* (3)
18. *a* (3) j
19. *at* (3)
20. *all* (2)

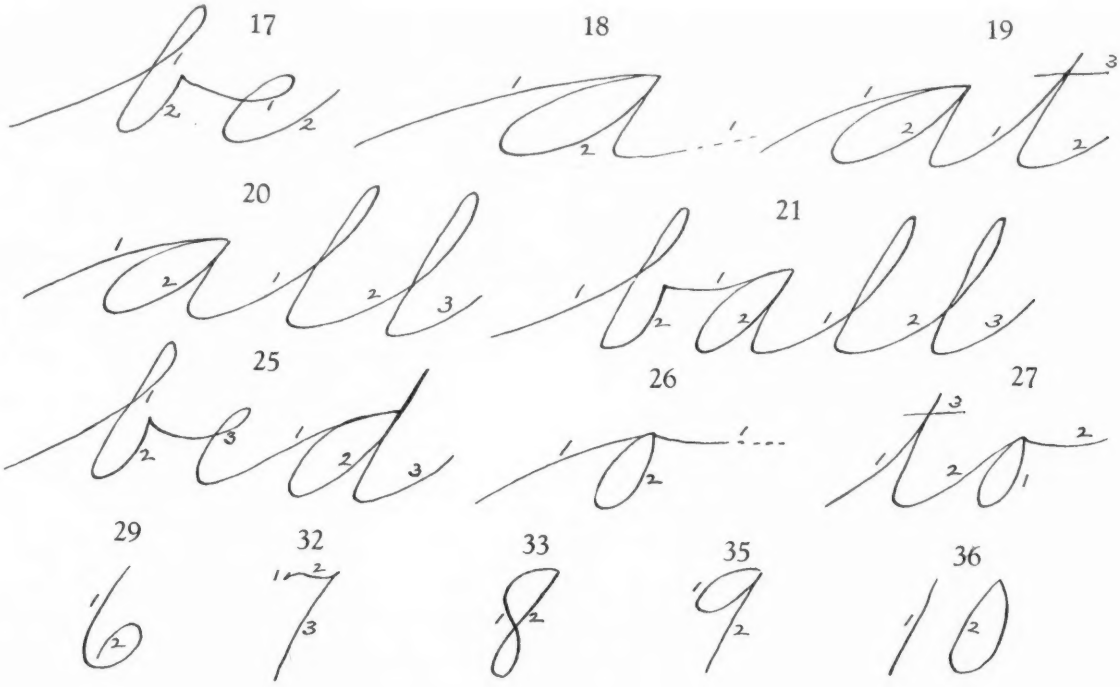
21. *ball* (2)
22. *a* (3)
23. *d* (3) j
24. *bad* (2)
25. *bed* (2)
26. *o* (3) j
27. *to* (3)
28. *do* (3)
29. *6* (5)
30. *w* (3) j
31. *we* (2)
32. *7* (5)
33. *8* (5)
34. *two* (2)
35. *9* (5)
36. *10* (4)
37. *c* (3) j
38. *cat* (2)
39. *f* (3) j
40. *fall* (2)
41. *A* (4)
42. *of* (3)
43. *m* (3) j
44. *me* (2)
45. *am* (2)
46. *n* (3) j
47. *can* (2)
48. *in* (3)
49. *and* (2)
50. *man* (1)
51. *no an on* (1)
52. *g* (3) j
53. *go* (2)
54. *dog* (2)
55. *E* (4)
56. *A dog* (1)
and cat (1)
57. *we can* (1)
fall we (1)
58. *let me do* (1)
it let me (1)
59. *tie a bad* (1)
dog tie (1)
60. *h* (3) j
h (3) j; *h* (2) j
61. *he the* (1)
62. *him* (2)
63. *C* (4)
64. *Can* (2)
65. *Can we* (1)
fall? Can (1)
66. *O* (4)
67. *O let me* (1)
do it. O (1)
68. *p* (4) j
69. *up* (3)
70. *let me up* (1)
71. *y* (3)
72. *my* (2)
73. *boy you* (1)
74. (See exercise)
75. *s* (3) j
76. *see* (2)
77. *is us is* (1)
78. *she* (2)
79. *r* (3) j
80. *ran* (2)
81. *run* (2)
82. *B Ben Boys* (1)
83. *k* (3) j
84. *look* (2)
85. *I* (4)
86. *J* (4)
87. *v* (2); *ve* (2)
88. *have* (1)
89. *M* (3)
90. *N* (4)
91. *x* (4)
92. *six* (2)
93. *P* (2); *Paul* (1)
94. *W* (2); *Will* (1)
95. *Y* (2); *You* (1)
96. *U* (4)
97. *R* (2); *Run* (1)
98. *Run to me* (1)
99. *L* (2); *Let* (1)

100. *S* (2); *See* (1)
101. *See the* (1)
dog run (1)
102. *G* (2); *Go* (2)
103. *H* (2); *He* (2)
can see (1)
me. He can (1)
104. *K* (2); *Kate* (1)
105. *D* (2); *Do* (2)
106. *F* (4)
107. *Do you see* (1)
Mary? Do (1)

During the first month fourteen new exercises were introduced. These included the letters *i*, *u*, *t*, *e*, and *l* and the digits from 1 to 5. Four simple words were also given. The reader may be impressed with the small amount of material presented and with the fact that the child cannot for some time use his writing as a means of communicating his thoughts. It should be remembered, however, that learning to write is primarily a matter of acquiring manual skill. The child will later use handwriting as a means of expression, but he cannot use it for this purpose until he is able to write with ease. To give the pupil practice in handwriting merely as an act of skill will hasten rather than retard its development as a means of expression. One need not be troubled, moreover, by the fact that the child's attempt to master these exercises is not impelled chiefly by a desire to express his thoughts in writing. He is sufficiently impelled by his interest in rhythmical activity, particularly in company with others, and in competitive accomplishment.

During the second month Exercises 15 to 38 are introduced. These include the letters *b*, *a*, *d*, *o*, *w*, and *c*, the digits from 6 to 9, and twelve simple words. The progressive character of the letter exercises may readily be discovered. The letters *i*, *u*, and *t* involve a simple forward stroke and a down stroke. The loop letters, *e* and *l*, require a slight modification.

The *b* introduces for the first time a stroke which is characteristic of a number of letters, namely *a*, *f*, *g*, *k*, *o*, *p* (if made with a closed loop), *q*, *s*, *v*, *w*, and *z*. In each of these letters the stroke approaches or meets another line so as partially or wholly to inclose an area of the letter, and then turns off in a radically different direction. At this point of turning there is usually a pause, or at least a very material slowing down of the stroke. This slowing down and the control of the stroke which results from it are furthered by the use of counting.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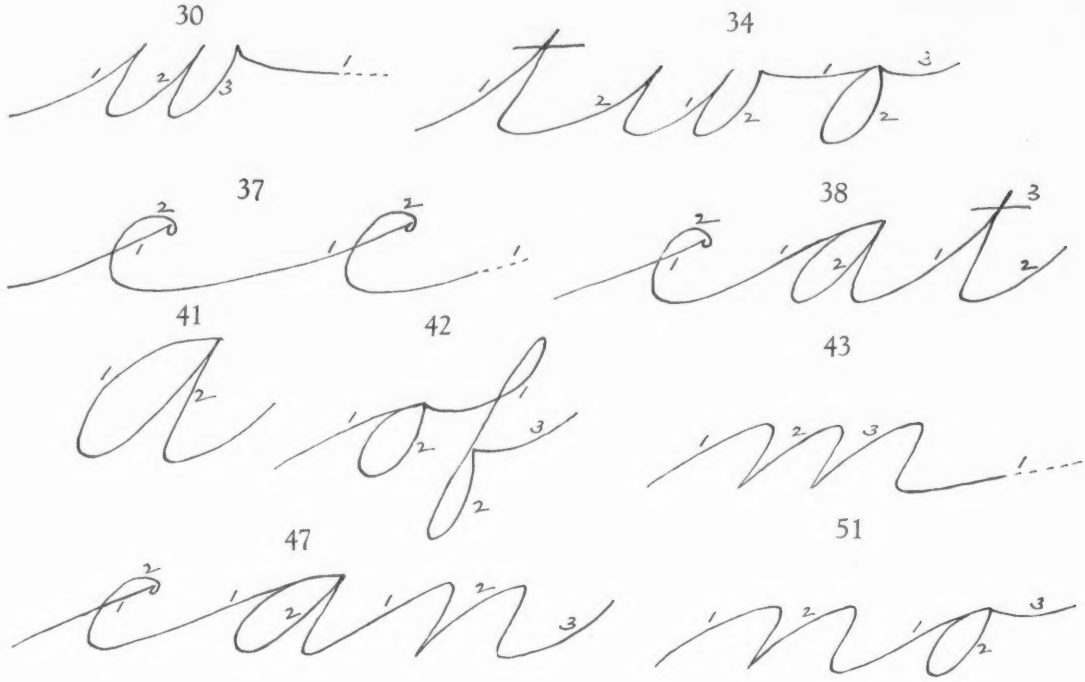
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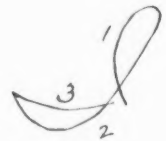

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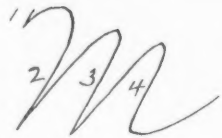

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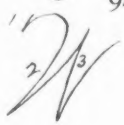

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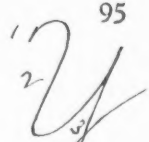

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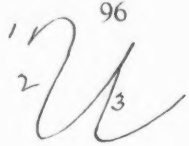

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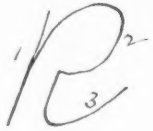

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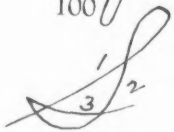

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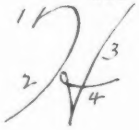

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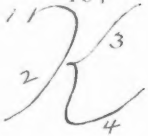

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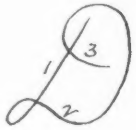

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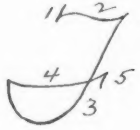

The metronome is introduced for the first time at the beginning of the second month. Up to this time the children have not sufficient control to enable them to follow the beat of a mechanical instrument. The teacher must indicate the count with her voice and vary it to suit the capacities of the children. Even now the children will have to be accustomed somewhat gradually to the regular beat. The rate of 50 beats per minute is suggested to begin with.

Space permits only a skeleton outline of the schedule for the exercises week by week. (The lessons are indicated by numbers in parentheses. R stands for review and G for give.) The teacher should comment on each new exercise, call attention to likenesses and differences, caution against common faults, commend good work, help individuals where they have special difficulty, etc.

FIFTH WEEK

(1) R: 3, 4, 7, first with long swing, then with short. R: 9. G: 15.[1]

(2) R: 1, 2, 15, 11. G: 16. R: 12, 13, 14. Notice connection between *b* and *w*.

(3) R: 7, 15. G: 17. R: 8, 10, 12, 13, 14. Notice connection between *b* and *e*.

(4) R: 1, 2 (half-line swing), 3, 4. G: 18. R: 9, 15.

(5) Give for record 12, 13, 14, 9, 18, 15, 16, 17. R: 6, 8, 10, 16, 17.

SIXTH WEEK

Metronome at 52.

(1) R: 3, 4 (long swing). R: 7, 18. G: 19, 20. R: 16, 17. Review numbers *1* to *10*. Give numbers *10, 20, 30, 40 50, 60, 70, 80, 90, 100* in column formation. Emphasize spacing and column arrangement.

(2) R: 15, 18, 9. G: 21, 22. R: 1 to 5.

(3) R: 18. G: 23. R: 15. G: 24.

(4) R: 1, 2 (half line). R: 23, 24, 7, 17. G: 25.

(5) Give for record 15, 18, 23, 24, 25.

[1] The count on the letter *b* is given in Exercise 17.

SEVENTH WEEK

(1) R: 3, 4 (long swing). R: 7, 9, 15, 23. G: 26, metronome first at 50, then at 56. G: 27.

(2) R: 23, 26. G: 28, 29.

(3) R: 4. G: 30, 31. R: 15, 17, 26.

(4) Review numbers *1* to *6*. G: 32, 33.

(5) G: 22, 24, 25, all on one line. G: 10, 17, 6, on one line. Review numbers *1* to *8*.

EIGHTH WEEK

Emphasize keeping on the base line.

(1) R: 27, 28, 31, metronome at 52. R: 19, 20, 21, metronome at 56.

(2) R: 27, 30, 31, metronome at 52. G: 34, 35, 36. Notice the "bridge" connections between *w* and *o* and *e*.

(3) R: 18, 26. G: 37. R: 6, 8, 10. G: 38. Contrast *a* and *c* at the top.

(4) R: 16, 17, 19, 22, 37, 38. Give 22 and 38 together.

(5) Give for record 22, 24, 25, 27, 28, 31, 34, 38. Practice numbers *1* to *10*.

NINTH WEEK

(1) R: 1, 2 (half-line swing). R: 9. G: 39.

(2) R: 20. G: 40. R: 22. G: 41. Notice that the count begins here on the down stroke and that there is a half-count lost between the capital and following small letter. R: 19, 20, with capital *A*.

(3) R: 30, 40, 19, 20 with capital *A*. Give the name of any child which begins with *A*.

(4) R: 26, 29 (short swing). G: 42. R: 30, 31.

(5) Metronome at 58. Give for record 37, 38, 39, 40, and 19, 20 with capitals.

TENTH WEEK

(1) R: 26, 39, 40, 42.

(2) R: 41. G: 43, 44, 45.

(3) R: 43, 44, 45. G: 46, 47, 48.

(4) R: 44, 45, 47, 48. G: 49, 50.

(5) G: 41, 19, 20 with capitals, and 44, 45, 47, 48, 49, 50 for record.

ELEVENTH WEEK

Metronome at 54.

(1) R: 49, 50. G: 51.

(2) R: 22, 23. G: 52, 53.

(3) R: 22, 23, 28, 52, 53. G: 54.

(4) G: 55. Write names that begin with E. R: 41.

(5) Compare the writing done the last day of the tenth week with that done on the last day of the fifth week, emphasizing points on which improvement is shown.

TWELFTH WEEK

Metronome at 56.

(1) G: 56. Watch spacing and arrangement on the line.

(2) G: 57.

(3) G: 58.

(4) G: 59.

(5) Give a test. Have pupils write on their papers their names and the date. Then have them write for exactly two minutes some easy rhyme they know by heart. Collect and keep the papers for grading and comparison. R: 56, 57, 58, 59.

THIRTEENTH WEEK

Continue to have the children do some blackboard writing.

(1) R: 9, 46. G: 60. Compare *h* with *l* and *n*.

(2) G: 61. Give the numbers by tens to *100* in column.

(3) G: 62.

(4) R: 41, 55. G: 63.

(5) Have names and date written on papers. Have the pupils write the numbers by tens to *100* in column and exercises 41, 55, 63, 58, 59. Collect papers and have children practice on their own names.

FOURTEENTH WEEK

Metronome at 56 for new work and at 60 for review.

(1) R: 63. G: 64, 65.

(2) R: 58, 63. G: 66, 67. Call attention to punctuation.

(3) R: 41, 55, 63, 66, and names beginning with these capitals.

(4) G: 68, 69.

(5) R: 65, 67, 68, 69. Review numbers by tens to *100* and give numbers from *20* to *30* in column.

FIFTEENTH WEEK

(1) R: 67. G: 70. R: 41, 55, 63, 66.
(2) G: 71. R: 62.
(3) R: 71, 72. G: 73.
(4) G: 74, 75. Use the rhyme:

See saw, Margery Daw
Up and down we go.

(5) R: 71, 72, 73, 74, 75.

SIXTEENTH WEEK

(1) R: 74, 75, first with rhyme, then with metronome. G: 76.
(2) R: 75. G: 77. R: 76.
(3) R: 75, 61. G: 78.
(4) Give one row of each number up to *10*, then the numbers in sequence to *10*. Then give the numbers in columns, ten to a column, up to *99*, except *10* to *19*.
(5) R: 75, 76, 77, 78, and the numbers in columns as on the previous day.

SEVENTEENTH WEEK

Metronome at 60.
(1) R: 75. G: 79. R: 51. G: 80.
(2) R: 79, 80. G: 81.
(3) Give in columns the numbers *0* to *9* and *20* to *29* with wide space between. Then give *10* to *19* in this space.
(4) G: 82.
(5) R: 79, 80, 81, 82.

EIGHTEENTH WEEK

R: 1, 2 (half-swing), and 74 briefly each day of the week.
(1) R: 9, 60. G: 83.
(2) R: 83. G: 84.
(3) G: 85. Write names beginning with *I* or other capitals already practiced.
(4) R: 85. G: 86.
(5) R: 83, 84, 85, 86, and numbers *1* to *29*.

NINETEENTH WEEK

(1) R: 15, 46, 17. G: 87.
(2) R: 87. G: 88. R: 79, 80, 81.

(3) R: 1, 2 (half-swing) once. R: 85, 88, 81. Give the sentence *I have run.*

(4) G: 89 and *My.* G: 90 and *No.* Give names, beginning with the capitals *M* and *N.* Review similar capitals.

TWENTIETH WEEK

(1) G: 91. R: 75. G: 92.

(2) R: 82. G: 93. Review numbers in columns.

(3) R: 89. G: 94. Write other names beginning with *W.*

(4) R: 94. G: 95. R: 73, then give it with capital. Give numbers *10* to *19* in column. G: 96.

(5) R: 92, 93, 94, 95.

TWENTY-FIRST WEEK

(1) R: 82, 93. G: 97.

(2) R: 97. G: 98, 99. Set metronome at 66. R: 10 with small letter, then with capital.

(3) G: 100, 101.

(4) G: 102.

(5) R: 98, 99, 101, 102, and numbers *9* to *19* in column.

TWENTY-SECOND WEEK

(1) R: 89. G: 103.

(2) G: 104 and names beginning with *K* or review 103.

(3) G: 105.

(4) G: 106.

(5) R: 103, 104, 105, 106. Review numbers *1* to *50* in columns and proper names.

TWENTY-THIRD WEEK

(1) G: 107.

The introduction of new letters, both small and capital, is now completed. During the remainder of the year the practice may be devoted to writing sentences, rhymes, etc., which are taken from the other work of the grade, such as reading. Attention may now be directed to the improvement of the form of the writing, but, of course, accuracy of form should not be so emphasized as to interfere with a reasonable degree of fluency.

In studying form it is well to take up one feature at a time. For this purpose the author's "Chart for Diagnosing Faults in

Handwriting"[1] may be found useful. For example, letter formation may be studied during a given week. This quality may be scored by means of the above-mentioned chart and the children encouraged to improve the form of particular letters. Attention may then be directed particularly to the element of spacing. Faults of spacing are responsible for much of the illegibility and poor appearance of writing, and they are comparatively easily corrected. Spacing is particularly important in the arrangement of numbers. Later lessons may be devoted to alignment, while at the same time attention is given to letter formation and spacing.

Quality of line and uniformity of slant may each in turn receive special attention. These features are somewhat more difficult to improve by giving direct attention to them than are the preceding ones, as they depend largely upon the fluency and ease of the movement.

The study of the form of the letters and words should be less minute and critical than in the following grades.

The rest of the year may be devoted to the occasional review of exercises which seem to meet the needs of the class and to continued attention to the elements of form.

The next article will deal with the work of Grades II and III.

[1] Frank N. Freeman, "Chart for Diagnosing Faults in Handwriting." Houghton Mifflin Co. For a description of the chart and its use see *The Teaching of Handwriting*, by the same author and publisher, pp. 123–42.

[*To be continued*]

SCHOOL EXCURSIONS

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Most teachers have had occasion to lament the fact that on school excursions some of the children see and hear but little and that most of them miss some important facts. Teachers have tried to overcome these difficulties by waiting for the laggards, by placing the shorter children in front, or by dividing the class into groups which are shown successively the objects under consideration. Then, of course, those who are waiting grow restless and perhaps disorderly.

The writer has been experimenting for a year with a plan which seems to eliminate these difficulties. It may be worth while to give the details of this plan for the sake of those who feel the need of a change in excursion procedure. This is done with a full realization that others may have employed the same or similar plans.

On an afternoon about a week before each excursion the teacher and four children went on a preliminary trip. This number was found convenient for the group of twenty-eight sixth-grade children with which the plan was tried. These four were to be the "lecturers" on the day of the excursion.

A number of factors determined the method of procedure on these preliminary trips—the character of the place visited, the character of the children, the nature of the topic to be studied, and the children's previous knowledge of this topic.

Late in the year, on the occasion of the preliminary trip to the rooms of the New York Historical Society, the four "lecturers" were "turned loose" to investigate the contents of the two rooms, read explanatory cards for themselves, and report their selections to the teacher, who wandered about within easy reach to give what help she could when appealed to. Now and then a child sought her to ask the meaning of a phrase, or to say "Do you see how

that works? I don't," or just in pure joy to share a particularly delightful "find." For the most part, the teacher inspected the exhibits in a leisurely way and greatly enjoyed the business-like attack which the children made.

Perhaps it was well that she was on hand to help adjust conflicting claims to the Lafayette punch bowl, the Beekman coach, and such "plums," although it seems probable that that particular group of "lecturers" would have worked out the division of the spoils fairly and amicably.

The children took notes as they went around a second time, studying more carefully the exhibits chosen. In some cases they went to the public library and read quite extensively during the next day or two and before the day of the excursion submitted their carefully prepared notes for criticism and suggestion.

Our first experience was at the Natural History Museum, such a large place that it was impossible to let the children browse and select at will. The teacher had previously picked out certain cases to which she took the group, stopping at each case and calling the children's attention to interesting features, reading the explanatory cards, and answering questions. Then the children were allowed to choose the cases they wished to "lecture" about. Conflicts were adjusted with but little difficulty.

On the morning of each excursion, the teacher placed on the blackboard four columns of names. The child whose name headed a column was to be the "leader" of that group, responsible for the children being in the right place at the right time and behaving properly. Each leader made two copies of the names of the children in his group, one for himself and one for the teacher. The teacher also had a chart showing the order in which the groups were to go to the different lecturers, and she made it a point to see that the changes took place smoothly.

Lecturers	Groups
Susan	1, 2, 3, 4
Walter	2, 1, 4, 3
Henry	3, 4, 1, 2
Kate	4, 3, 2, 1

The leaders' duties began when the class arrived at its destination. The groups were separated, the "lecturers" took their

places, and each leader was told to which "lecturer" he was to take his group. A rendezvous was designated and the leaders instructed to take their groups there after the first lecture. The teacher circulated among the groups more or less but managed to be at the meeting place about the time the first of the four groups returned.

There were inevitably some waits, but the time was not wasted. The children discussed what they had seen and heard, or looked independently at objects near at hand. When the excursion was made to the Dyckman Farm House, the front porch was the rendezvous. Three groups were waiting. Said the teacher, "Mix up and play, if you want to," and off on the grass they ran. The fourth group arrived, the whistle blew, and in an unbelievably short time the four groups stood waiting for another "lecture."

As to discipline, on no occasion has the teacher had to interfere; indeed, the groups have all been so earnest that there has been practically no trouble. Once a "lecturer" was overheard saying, "Now, please Jack, look at the *right things*. Somebody else is going to explain all that and you won't get either kind if you don't look at the right things and listen *at the time*." Whereat Jack speedily fell into line.

On another occasion a child broke away from a group and started toward the teacher, calling her name. The "lecturer" pursued her. She spoke firmly, but with no excitement. "Here, you have no business to ask Miss ———. I'm in charge and I'm just going to tell you."

Again the teacher heard a leader say to one of the children, "If you *have* seen it before, don't be talking; listen to what he's saying."

The offender replied, "I did listen."

Thoughtlessly, the teacher asked, "What is the trouble?"

The leader replied with dignity, "Oh, nothing," and the teacher retired to the background where she belonged.

There may have been other slight disturbances, but no others were observed. Indeed, in the main, there has been a delightful spirit of courtesy and respect for the rights of others.

One pleasing instance of such respect occurred at the Dyckman House. The teacher wandered up to a group which was standing

in front of a case of Revolutionary relics. The "lecturer" welcomed her approach. "When we were here the other day, the custodian showed us another gun like this in the winter kitchen and explained how it worked. I *think* James is going to lecture about it. If he isn't, I'd like to lecture about this one. Of course I don't want to interfere with his lecture. Could you. . . . ."

Realizing that he was asking the teacher to act as messenger, he stopped, embarrassed. In the most matter of fact tone she replied, "Surely, I will go and find out." James was going to explain the gun and William smilingly gave up doing so.

When the prepared program had been completed, the children were told that they might have a few minutes to wander about alone or in groups of their own choosing, only they were not to go so far that the leaders would have difficulty in reassembling them when the time was up. This free time was highly appreciated. Off they would go, by twos for the most part, some to re-examine what they had been shown, the majority to browse independently; and who can say that this may not have been the most valuable part of the excursion?

Just before they were given this free time at the New York Historical Society, the children were told that later they would be expected to write a paper about whatever had interested them most, now was their time to give further study to anything they had seen, or to look about for something which might interest them more.

The papers were illuminating. Seven of the twenty-eight wrote of things not included in the day's program; six wrote of an object which it would not have occurred to the teacher to stress, and only one discussed the model of Fulton's steamboat, which she had supposed would be a favorite.

It has been gratifying to have some outsiders, who have observed the plan in operation, comment upon it favorably. The custodian of one of the historical buildings visited is ordinarily annoyed by the presence of children. On this occasion he watched the proceedings with interest and said, "I have seen hundreds of classes come here, and this is the best I ever saw." It may not seem modest to report this, but he said it three times, once to the teacher

when she was alone, once to a visiting lady, and once to the children, when he bade them goodbye, after having shown them a room usually kept locked. To the teacher he added, "Most times most of the children can't see. They don't learn anything. These children are learning."

At the New York Historical Society a woman was copying a portrait of Peter Stuyvesant. She was considerably annoyed when the first group of children assembled near her and the "lecturer" began to talk about the doughty Peter. The teacher stood near, apparently studying another picture, in reality alert to see what would happen. The artist stopped painting and listened to the dignified little girl. She grew interested, and when the lecture was at an end told the children other facts about the old governor. When the group passed quietly on she questioned the teacher who explained the plan. The artist was delighted. "That's the way to do it, thoughtfully, with brains. Most of the classes that come here don't get anywhere."

And what do the children themselves think of this way of managing an excursion? Unanimously they approve. "You can see and hear better in small groups." "You have more chance to ask questions." "It's easier for the teacher." "You like to do things for yourself." "It makes you feel more grown up." Some ingenuously announced, "It's most fun when you are lecturer." That it was of most profit to the "lecturers" was quite evident. How some of those youngsters worked to prepare for their lectures!

Not long after the excursion to the New York Historical Society, the children were told to write a paper which should be a surprise to the teacher, a story, a description, a poem, whatever they liked on the topic in history which had interested them most so far. Three of the four lecturers on that last trip chose something that they had lectured about, and one other child wrote of something shown him on that occasion. One of these surprise papers, as we called them, states the matter very naïvely. "The thing I enjoyed most in the year was the lecture I gave, and the thing I enjoyed lecturing about most was Fulton's steamboat so I have written a poem about it."

It is possible to arrange so that during the year each child shall have this vital experience of "lecturing" during an excursion. Some "lecturers" are uninspiring; they haven't the gift. A very few are indifferent and feel little sense of responsibility. But the majority take the matter seriously. Two little 'lecturers" arranged to take to the museum three children who were absent on the day of the excursion.

Of course, not all excursions can be conducted in this way. Occasionally the group must keep together; time may be limited; or it may not be safe for the children to wander about alone, in a factory, for instance; or it may be that the explanations must be given by experts who cannot be asked to give them more than once, as at the weather bureau.

Again, there may be classes which would not respond favorably to the method. As far as the writer's experience goes, the plan has been tried with only one class and that an unusually responsive and responsible group of children. It may not work so well another year. There seems no doubt, however, that many groups would get more from an excursion so conducted than from an excursion *en masse*.

MALNUTRITION, THE SCHOOL'S PROBLEM

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That better nutrition of children is a problem which every community needs to face is now a generally accepted fact. Just what agency shall start the work and how and by whom it shall be carried on are points on which there is less general agreement. The work which began in dispensaries has spread to welfare stations, settlements, and schools, and is now being carried on by a variety of workers under the auspices of numerous public and private organizations, such as dispensaries, hospitals, the American Red Cross, the Extension Department of the United States Department of Agriculture, child-welfare organizations, state health departments, and others. Since the beginning of the movement there has been a growing conviction on the part of those engaged in it that the public school must take over the problem before full success can be assured. The purposes of this article, therefore, are (1) to present the reasons why it is believed that the school is the logical agency to do the nutrition work; (2) to show wherein the school commonly fails to do its part in furthering health; and (3) to outline general plans of procedure for schools desirous of undertaking the nutrition task.

There are three chief reasons—to attack the first problem—for assigning the nutrition work to the public school. The simplest and most obvious of these is that the school already has the children. The dispensary has them for an hour once a week or, less often, for a number of weeks; the attendance is voluntary and often very irregular; and the children most interested, rather than those most in need of care, are the ones who attend. Moreover, it is only the children in poorest condition who are usually reached, for parents do not as a rule take their children to a doctor or to a dispensary until they consider them actually ill. The school, on the other hand, has all the children (save those under school age,

the method of reaching whom cannot be considered here), and it has them day after day for eight years or longer. It can reach not only the children most below par, but every child, and can eventually hope by prevention to bring the whole group into the ranks of the well nourished.

A survey of the causes of malnutrition reveals the strongest reason of all for assigning the task to the school. Briefly stated, too little food, the wrong kind of food, too little sleep, too much or too vigorous exercise, and the presence of physical defects—like adenoids, diseased tonsils, and bad teeth—may be said to be the chief actual causes of malnutrition. Back of these specific causes, however, are the underlying ones of poverty, ignorance, and lack of home control, the most prevalent without doubt being ignorance. Children have inadequate diet and insufficient sleep, in the large majority of cases, not because of poverty but because they and their parents are ignorant with regard to the food, sleep, and other health requirements of children. Adenoids, diseased tonsils, and other physical defects are likewise allowed to go without attention largely for the same reason.

The first requisite for the improvement of the physical condition of children, then, is education; and education, it will be generally admitted, is the school's job. "Book learning" as the sole aim of education was long ago discarded, and the broader aim of teaching children "how to live completely" has, theoretically at least, taken its place. Surely, the first step in a program of complete living should be education to produce a sound body.

Still a third reason for believing that the school is the agency to carry on health education is that the school is the one best equipped to do the work. It has already been said that the children need education in health habits and in the choice of food. Here is the school with a corps of trained teachers, skilled in the art of presenting knowledge; here are the physical training department, the home economics department, the physiology and hygiene classes, and the school lunch; and, most important of all, here are the children themselves for five hours of the day, during which the school can, if it will, make sure that the children actually live what they are taught.

Since the school, then, has all the children and with them the opportunity to do preventive work; since the chief cause of malnutrition is ignorance and removal of ignorance is primarily the school's job; and since the school is the agency best equipped to give health instruction, the conclusion that the responsibility for the health problem rests on the public school seems fully warranted. It seems, indeed, that there must be something radically wrong with a system which compels children to go across town to a dispensary to attend a nutrition class on Saturday morning or after school, in order that they may be taught by doctors and dietitians the simple lessons of health which should be taught in school by their own teachers during regular school hours.

But, it may well be argued, the school has had these same opportunities for years, and yet the schools are full of malnourished children. What does it mean? It means, we believe, that the school has "fallen down on its job." There is much talk in these days about standardized tests to determine the effectiveness of teaching in arithmetic, grammar, and spelling. A study of the physical condition of the children, together with an investigation of their method of living, furnishes the best test of the success of the school's health instruction.

To answer fairly and fully the question as to what the schools themselves are doing in the way of nutrition and general health work is, of course, impossible. Some conditions actually observed and which, it is believed, can be found in a majority of the schools of the country may be offered in explanation of the school's failure in its duty to health.

Sleep is one of the most imperative health needs of a growing child. To urge and to insist upon a regular early bedtime for every child should be the duty of every school. What, then, should be said of a school which gives an entertainment, using all of the children from the first grade to the eighth, beginning at 8:30 P.M. and lasting until 11:00 P.M. or later? That school has not only violated one of the fundamental laws of child health, but—what is even more serious—has set its seal of approval on late hours for children.

In its hygiene classes the school teaches the necessity of breathing fresh air at all times; and yet, because of lack of attention to

ventilation, the same school may be compelling its children to breathe foul air for five hours of the day. Keeping pupils in at recess—not yet an obsolete punishment—makes a respite from the bad air likewise impossible for many a child.

The hygiene teaching and physiology teaching are doubtless much improved over the old-time methods. In the schools of at least one city, however, physiology lessons still consist largely of a recitation of the names of the bones in the body and the definition of such terms as corpuscle and esophagus. Even in schools where these subjects are well taught the education still too often stops at knowledge. There is no follow-up work to insure the doing of the thing taught.

It is to the home economics classes one turns with the expectation of finding children being trained in the wise choice of food and the formation of good food habits. Unfortunately, however, the work in far too many schools is little more than the mere mechanics of cooking and sewing. Moreover, the work is usually given only to the girls of one or two grades, while the boys are omitted entirely. And yet, boys as well as girls will have to select their own foods for at least a part of their lives.

The school lunch has been looked to for great accomplishments in the improvement of nutrition, and it has, indeed, accomplished much. There are, nevertheless, schools which serve excellent school lunches where the children are eating just as inadequate and unsuitable lunches as if there were no better available, because of the lack of supervision in the choice of food. Such schools are overlooking their best opportunity to teach right food habits and to insure that one of the day's meals, at least, is what it should be.

The physical training department is the one whose chief purpose is the improvement of the health and physical condition of the children; and no doubt there are many schools where children are being helped to become physically fit through this department. There are, unfortunately, plenty of others of which this is not true. For example, a physical training teacher, in her anxiety to present a finished performance on field day, allowed the boys to overtrain at athletics, and the girls to practice far beyond their strength in order to perfect dances and drills. Thus, the department which

should have been the most active in health upbuilding became instead an active agent in its destruction.

The illustrations need not be multiplied. Enough have been offered to show that the school, in spite of the fact that it has numerous health agencies, not only fails to correct or to prevent malnutrition, but is often actually responsible for the conditions that cause it.

To the discredit of the school it must, indeed, be reported that persons conducting nutrition classes in dispensaries and elsewhere have not infrequently found certain phases of school routine or school requirements the chief obstacle to effective work with the pupils of these classes. In one class composed largely of girls ten to thirteen years of age, no causes could be found for their condition save those of worry over school work, late bedtime, and too little time for outdoor play. In other instances progress has been impossible because the school has refused to excuse from baseball or football children who were in such condition that they ought never to have been allowed to take any form of athletics, much less these strenuous ones.

The only hope for ultimate success, therefore, seems to be for the school itself to shoulder the burden. A beginning, in fact, has already been made in the schools. Dr. Emerson, the pioneer in the nutrition-class work, has conducted classes in selected schools, and various public and private agencies have likewise gone to the schools and started the work. This transferring of the nutrition class from the dispensary and settlement to the school is a step in the right direction. The situation is still far from the ideal, for the work is being done, for the most part, by agencies outside the schools, often with half-hearted assistance or none at all from the teachers, while the regular activities in many cases are as far from furthering the health aim as formerly. Moreover, it is only the children 7 per cent or more underweight who are, as a rule, being reached. Some schools, to be sure, employ a nutrition teacher or supervisor to conduct the nutrition classes—a further step in the way of improvement. Yet, even these nutrition teachers—so far as the writer has been able to learn—are working largely or entirely with the underweights, having little support from the

school as a whole and no power to demand health requirements necessary to progress, such as exemption from strenuous athletics and freedom from home lessons. Such nutrition work, in other words, is still largely a one-person job.

It is certain that real success can be attained only when, instead of relying upon outside agencies or one nutrition teacher to carry on nutrition classes for the most deficient pupils, the school itself accepts the problem as its own, organizes its staff and all its activities in accord with health standards, and attacks the problem with the full force of all its powers and with the aim of reaching every child. Let it accept, if it will, the assistance of outside agencies until such time as it no longer needs help. Or, better still, let it employ a well-trained nutrition supervisor to direct the work. But let it do either only in full realization that the burden of the task must rest on the whole school.

What, then, it remains to inquire, can the school do and how should it proceed? The first step, if there is to be the fullest success, is obviously to enlist the interest and co-operation of all persons coming in contact with the children from the janitor to the superintendent, including especially the teachers of home economics and physical training, the lunch supervisor, and, if possible, the parents. Let them together plan a health campaign as definitely as they would a thrift-stamp drive. If it is possible to secure the services of a specialist to start the work, it may move more easily and effectively; but it is possible for the school staff to carry it out alone.

A logical beginning for a school could well be to make a nutrition and health survey to find the existing conditions. Let it first look into its own activities, its practices, and its teachings, to discover to what extent these are subject to criticism. Let it ask itself if school entertainments are given at night, if children are kept in at recess, if there are ample toilet facilities, if the classrooms are well ventilated, if home lessons are required, and, if so, in what grades. Let it learn in what grades physiology and hygiene are taught, the number of hours per week given to them, upon what the emphasis is placed, and what, if anything, is being done to insure that the teaching is carried over into the children's

living. Let it inquire what percentage of its students are being reached through the home economics classes and whether the food habits of these students are being improved thereby. Let it learn whether the physical training is conducive to health improvement and development for all students or whether its energies are devoted to developing a few athletes and making a good exhibition on special occasions. If there is a school lunchroom, it should be visited and the following questions answered: Are there foods served which children should not have, such as coffee, tea, and rich pastry? Are the children given any instruction regarding the choice of a lunch before coming to the lunchroom? Are they restricted or guided in their selection of food? Let the one best capable of judging watch the trays as the children pass and note the following: How many trays contain milk? How many contain a vegetable? How many have lunches consisting largely of simple, wholesome foods? How many have lunches consisting largely of sweets? How many have lunches which appear approximately adequate in calories? How many are plainly inadequate in amount?

If the findings of such a study are summarized and the results made available to all of the staff, the effect can scarcely fail to be wholesome, even if no further study is made.

A second essential of the self-survey is to investigate essential health factors in the daily living of all the children. A detailed study of hygiene and diet needs the services of a specialist and requires much time and effort. Nevertheless, a school will find much to enlighten it and to furnish suggestions for future work by a few simple inquiries into the children's habits regarding the basic health factors. Mimeographed sheets containing suitable questions should be prepared, and each teacher should endeavor to secure honest and complete answers. In the upper grades this can be done by allowing the children to answer the questions themselves; in the lower grades, by putting the questions to the children individually and supplementing the information gained by interviews with mothers or older brothers and sisters.

This questionnaire should be so formulated as to discover regarding each child the usual hour of going to bed; the frequency

of attending night movies; whether windows are open at night; the number of hours spent out of doors on school days; whether the child owns a toothbrush and, if so, how often he uses it; if the child eats breakfast before coming to school and, if so, what he has; whether he likes milk, and the amount he has daily; whether he drinks coffee or tea, and how much; the vegetables he likes and eats; and the amount of candy and sweets eaten between meals.

The answers to these questions will doubtless not be entirely reliable, but if secured by teachers sincerely interested in obtaining full and truthful replies, they will be worth tabulating as an indication of the work which needs to be done.

A third step in the self-survey is to determine the physical condition of the children themselves. The school should weigh and measure all the children and compare the weight of each child with the average for his height. According to present standards, all children falling 7 per cent or more below the average are considered undernourished. This does not mean that these are the only ones to be considered, for all who are found by the health survey to be following a faulty health program should have instruction, regardless of their present physical condition; but the underweights are perhaps in more urgent need and will be apt to require more intensive treatment.

A medical examination of all the children is needed to complete the study. This is mentioned last, not because its importance is not fully recognized, but because the ordinary school is still unable to provide for it.

The first two parts of the self-survey—the study of the health aspect of school activities and the investigation of the children's habits of life—can both he carried out by the school with no outside assistance and no expenditure of money. A health campaign based on these findings should be begun, even if a scale and a physician are not obtainable, for it may be safely stated that faulty diet and bad hygiene will be found to be largely responsible for the condition which the weighing and the examination will reveal. To be sure, there will be a goodly number of children who will fail to respond to the improved hygiene as they should, because of the hindrance of decayed teeth, diseased tonsils, adenoids, or other

physical defects. The health education will be good for them, nevertheless, and it may be all that the majority of the children need in order to bring them into good physical condition. No school, therefore, should hesitate to make a beginning even though it has no funds and no physician.

There are few schools, however, which cannot obtain money for a scale, at least; and many can secure nose, throat, and teeth examinations for the underweight group, if nothing more is possible. Furthermore, sufficient interest frequently develops as the work proceeds to make many things possible after a time which were not at the beginning. Medical care for school children may quite possibly be one of the outcomes of the undertaking.

Having made the self-survey, the next step is, of course, to correct the conditions found. Unless the school is an unusual one, the tabulations will show that the majority have a late bedtime; that many sleep with closed windows; that coffee and tea are in common use; that milk and vegetables are generally disliked and little used; that the habit of coming to school without breakfast or with practically none is a common one; and that many pupils eat candy, peanuts, etc., between meals. If the children have been weighed, it is safe to predict that from 25 to 50 per cent of them will be 7 per cent or more underweight; and if they have had medical examinations, a large number of physical defects needing urgent attention will be discovered.

Obviously, the first thing for the school to do is to set its own house in order, at least to the extent of discontinuing those practices which violate the laws of health. It should, in addition, begin such reorganization of courses or shifting of emphasis as may be needed to make the school subjects—particularly those with health content—contribute their share to health education.

If possible, tonsils and adenoids should be removed when necessary, teeth should be cared for, and other medical care secured for those who need it. Removing tonsils and adenoids is not always an easy matter, however. There are parents—fathers in particular—who will not have their children "operated on"; others are certain the children will outgrow them; and still others believe that if the Lord caused the tonsils and adenoids to grow he

meant them for some good purpose and steadfastly refuse to have them out. It often means a long educational siege to get them removed, and even this may be ineffectual.

A campaign of health education based on the findings of the self-survey should be begun at once. The success of this depends on the enthusiasm and co-operation of the teachers. When superintendent, principal, and teachers get interested in a project they can readily arouse the interest of the whole school. The children can be aroused to selling Liberty Bonds, thrift stamps, or tickets for a minstrel show. They can be made wildly enthusiastic over Roosevelt, self-government, adopting French orphans, buying milk for hungry babies, or planting trees on Arbor Day. If the school through its leaders, therefore, will but center its interest on the health campaign, it can set the children to working for it with as great interest and energy as they work for these other enterprises.

Let the school, then, launch a sleep drive, a milk drive, an anti-coffee campaign. Let it start a movement for better breakfasts, for "no sweets between meals," and for other reforms shown by the survey to be needed.

Weight charts should be made for the underweights and the spirit of competition aroused to see which shall be first to reach his normal weight. Let the school pit room against room, class against class, boys against girls; let it use the devices and rewards which have been found successful in other work. It is possible to get children to take as much pride in being the record room for early bedtime or for having no coffee drinking as for perfect attendance. One teacher succeeded in putting a whole roomful of children to bed regularly every night at eight by means of a brownie stamp. A chart of the children's names with squares for days, the stamp and pad, and about two minutes of time to call the roll and stamp a brownie for everyone who could answer "yes" were all it required.

It has been assumed in this plan that there will be a concentration of attention on the health movement for a period, it being taken for granted that the investigation will show urgent need of a general campaign. This can be more easily accomplished—as

has been repeatedly demonstrated by the success attending Red Cross drives, backyard drives, thrift-week campaigns, and the like—by centering the attention of everyone concerned on the matter and concentrating every effort for a short period toward the desired end. This is a good method of creating an interest in the health problem, but it must be said, in warning, that the work should not stop there. The nutrition and health problem is not one to be settled by one heroic effort for a few weeks, but by daily education, training, and practice in the art of healthful living. Along with plans for starting the health drive, therefore, should go plans for the establishment of a system of health education which shall be a stable part of the regular scheme and shall involve every child, every teacher, every subject, and every phase of school routine for the full period of the child's schooling.

Educational Writings

REVIEWS AND BOOK NOTES

Principles of education.—During the last two decades the study of education has made notable progress through the application of scientific methods to its problems. There has developed a voluminous experimental literature covering a wide range of topics, especially in the branches of educational psychology and educational and mental measurements. Considering the problem of education as a whole, however, it is necessary not only to continue in this type of extensive experimental study, but also to see to it that the formulation of principles and aims does not lag behind. Unless experiment is clearly related to general principles it is in danger of losing itself in the maze of its own detailed results. Considering the scarcity of recent books which treat education from such a broad and general viewpoint, the appearance of an outstanding volume[1] of this character will arouse more than usual interest. The book comes from the pen of an English educator, Professor Garnett, but its viewpoint and its general concern are world-wide.

The author's purpose has been to formulate, in the light of modern knowledge of physiological psychology, a few general principles of education, as a contribution toward the furtherance of the science of education. Recognizing the lack of agreement as to the first principles of education, relating to both means and desired ends, the method of procedure has been, first, to survey scientific literature to secure the facts, second, to state the facts in unequivocal and technical terms and, third, to select from this mass of available material a limited number of facts which are to be generalized into principles. The author recognizes that some of these principles may be tentative and subject to change, but he proposes to make them world-wide in scope. In carrying out this elaborate program the material of the book is grouped into three main divisions.

Book I consists of a very brief summary of the aims of education in the past, followed by a preliminary statement of the author's position. Proposing as a concise statement of aims, for adolescence and maturity, the development of self-realization and a single wide interest, the author passes the burden of developing this formula on to the next section.

In Book II, which comprises somewhat more than half of the volume, the author shows himself to be thoroughly familiar with physiological psychology

[1] JAMES CLERK MAXWELL GARNETT, *Education and World Citizenship.* London, England: Cambridge University Press, 1921. Pp. x+515.

and the general experimental literature relating to educational pyschology. In developing and qualifying the statement of aim, namely, that education should produce a single wide interest—a unity of thought and feeling—that should be the principal factor in determining thought and action, the author bases his argument upon five laws of thought. The first three of these laws are summarized as follows:

1. To every psychosis there corresponds a neurosis [p. 66].
2. Excitement in any nervous arc tends to spread to every other arc that is connected with the first through synapses the insulation of which the excitement in question is intense enough to overcome [p. 69].
3. Any arc of the higher level, if intensely excited relatively to other higher level arcs, tends to drain the impulses from those other arcs [p. 79].

The significant corollary to these laws is that "the value of a neurogram—a system of low resistance paths whose excitement accompanies a thought activity—measured by the effect it produces upon the stream of thought (and so, as we afterwards saw, upon conduct), depends upon its connexions with other neurograms. This effect, we found, was greater, the wider and deeper the interest-system of which the neurogram in question forms part; and, under certain conditions . . . . is also greater the more central the position it occupies in that system. Later we saw that a system of neurograms that corresponds to a purpose tends to have a greater influence on thought and conduct than any other system equally wide and deep; and that every such purpose-system tends to be rich in emotional elements" (pp. 312–13).

The fourth and fifth laws of thought state that the will, by reinforcing the excitement in any excited system of higher level arcs, may cause that system to drain the excitement from all other active arcs of higher level; and that the normal result of every train of thought is action. The author frankly takes an interactionist position and seeks to justify it. Upon these laws he builds his concept of conduct and character.

Book III outlines in a general way a complete system of education, primarily designed for adoption in England, but adaptable in general form to the needs of training for "world-citizenship." It is significant that the initial principle presented in this plan of organization is the principle of selection according to capacity in order to produce a closer adjustment between types of education and types of general ability. After a somewhat detailed discussion of the application of further principles, a complete scheme of school organization is presented, covering both types of education and types of schools. A chapter proposing a national scholarship system, at an estimated annual expense for England and Wales of approximately $125,000,000, should probably be considered in view of normal rather than present financial limitations.

As a whole, the book is an outstanding contribution to educational literature. The treatment throughout is systematic and logical, and the supporting footnote evidence is sufficient to meet the demands of the scientific reader.

As a careful statement of the general problem of education, the book furnishes an excellent background for critical thinking and correlated experimentation.

G. T. BUSWELL

The rural community.—Numerous agencies have been interested to effect an organization of the forces of rural community life which would be permanently successful in promoting specified social or economic aims. One of the outstanding difficulties in the way of effecting such an organization among rural folk is the determination of the natural or social boundaries of the area to be organized. It is offered in explanation of the failure of many attempts at rural community organization that the geographical unit selected comprised too many and too diverse centers of interest to admit of unification of purpose. Other efforts have failed because of an insufficient number of common interests. A recent study[1] of this particular phase of the problem describes certain selected rural units which are defined by existing institutions or influences, and analyzes these in terms of the conditions and relationships which are regarded as essential to effective organization of the socio-economic forces of rural life.

Noting first the lack of a central guiding policy in the activities of the various agencies seeking the improvement of rural community life, the author emphasizes the need for a recognition of the changing rural psychology, and for an analysis of the influence of the farmer's attitude of mind upon his mode of living and his institutions. The increasing commercialization of agriculture, improvements in means of communication and transportation, and the wider use of mechanical appliances have served both to overcome the farmer's individualism and to endow him with a greater reserve power and alertness for associative activities. Rural organization plans will prove themselves successful only as they are constructed in recognition of this newer characteristic of country life. From the point of view of the selection of a rural unit which may be expected to lend itself to effective organization, such recognition is interpreted by the author to mean that "this unit should have a sufficient area of territory within which the farm population may have enough cohesion to work together, enough volume of numbers and of wealth for the creation of necessary institutions, and sufficient concentration within the unit to allow for the distribution of needed public utilities" (p. v).

Applying this standard to such defined areas as have commonly been chosen as units of organization, the author finds that the rural trade area of villages, towns, and cities may, in particularly favored situations, be a good rural organization unit; but, in general, the trading center does not hold enough interests which are vital to all members of the group to cause them to feel and act concertedly. The small rural school district is found to be too small in area and in population to provide a sufficient number and variety of social contacts. The rural parish is not sufficiently comprehensive and frequently lacks compact-

[1] AUGUSTUS W. HAYES, *Rural Community Organization*. Chicago: University of Chicago Press, 1921. Pp. xi+127.

ness and cohesion. In the consideration of these units, the author describes the general characteristics of the area and its population in each case, and presents a detailed analysis of at least one actual unit with which he has been identified. Other special units described from the point of view of their adaptability to social and economic organization are the township, the New England town, the typical country community of the southern states, and a special type of unit known as the North Carolina Incorporation Plan. With the exception of the New England town, which appears to be well adapted to community organization by virtue of the fact that the town is usually a natural community, these latter units are subject to the same sort of limitations noted in the discussion of the trade area, small school district, and parish.

In the end the author finds the most promising conditions as regards rural community organization in the consolidated school district. In general, it is found that consolidated districts are outlined more in conformity with natural, socio-economic units of population, and the farmers appear to recognize this district as the center of their social, economic, and religious activities. Such a district is usually organized about a village, town, or trade center, includes a sufficient population to insure adequate social leadership, sufficient wealth to maintain effective social institutions, such as the high school, and makes possible the kind of activities that the farmer's standard of living and attitude of mind demand. In addition to a detailed description of certain districts of this type, the author presents the statements of county superintendents and other authorities in different states relative to the community value of the consolidated school district.

The study has evidently been carefully made, and sufficient concrete material is presented to enable the reader to visualize the situation in each unit described. Besides its value to those interested in the problems of rural community organization, the discussion has a direct bearing upon many of the specifically educational problems of rural life.

N. B. HENRY

An analysis of professional work for women.—The readjustments made necessary in the labor market by the post-war business depression have brought forth a large number of writings on the topic of occupational guidance. Unfortunately, many of the recent publications are not the result of a scientific search for facts and principles. The immediate situation has been too frequently assumed to be both normal and static.

It is encouraging to note the appearance of a new and scholarly volume[1] dealing with professional work for women. The Women's Educational and Industrial Union of Boston is the organization sponsoring the preparation of this analytical study. This volume brings down to date, and adds to, the information for prospective women professional workers which was included in a much earlier publication entitled, *Vocations for the Trained Woman, Part I.*

[1] ELIZABETH KEMPER ADAMS, *Women Professional Workers.* New York: Macmillan Co., Pp. xiv+467.

The comprehensive purpose of the present work is indicated by the following prefatory statement:

> It is designed, first, for the thoughtful undergraduate who is trying to select her occupation, or having selected it, trying to see its professional and social relations; second, for the young woman two or three years out of college or school who has drifted into a "dead-end" occupation or from one occupation to another, and is now trying to get her bearings and to take a longer view; third, for teachers and administrators in colleges and schools—deans, principals, vocational advisers, and so on—who are seeking a broader basis in fact and outlook in their dealings with young people; fourth, for employers who are increasingly turning to the colleges and professional schools for young men and young women workers; fifth, for men and women everywhere who are considering the scope and nature of the professions and the implications of the new participation of women in the worlds of inquiry and affairs [p. ix].

Miss Adams, not content to limit her discussion to the static elements in professional work, has ventured to prophesy far-reaching changes in certain vocations. Doubtless her predictions are based on the best evidence available at present. Such questions as marriage and the professional woman have been frankly presented. It is significant that "a growing number of professional married couples—most of them young—are working out the problem together, making a genuine contribution to social adjustment. . . . . The working out of simpler standards of living and household routine, the better understanding of the principles and practices governing physical and mental health in children, are making it practicable as well as desirable to meet both sets of obligations and to have one reinforce instead of hindering the other" (pp. 31–33).

The author's discussion of professional opportunities in public health service is pointed and, no doubt, sanely prophetic. Her two chapters entitled "Food and Living Services" show a well-defined tendency to make truly professional certain vocations that were once known to connote the menial. The overstimulated profession of personnel management is carefully outlined, and representative salary schedules are submitted. Teaching and other forms of educational services are critically analyzed. The author believes the time is ripe for a real professional spirit among teachers. In a word, Miss Adams has made a scholarly, yet concise, contribution to the solution of the economic problems of the ambitious and superior woman of today.

G. M. HOYT

A new book on statistical psychology.—Dr. William Brown's well-known text on mental measurements has been revised and expanded to form a second edition[1] by the same title. The alterations and additions are largely the work of Professor Godfrey H. Thompson who now appears with Dr. Brown as co-author. A first impression on reading the book is that it is a great improvement over the early edition, and also that Dr. Brown was fortunate in secur-

[1] WILLIAM BROWN and GODFREY THOMPSON, *The Essentials of Mental Measurement.* London, England: Cambridge University Press, 1921. Pp. viii+216.

ing the co-operation of Professor Thompson, to whom the improvement is largely due.

While the general organization of the book is the same, Part I now contains chapters on "The Elementary Theory of Probability" and on "Skewness and Heterogeneity in Psychological Data." The treatment of these topics shows the same rare combination of pedagogical skill in exposition with clear mathematical style that Professor Thompson also reveals in Part II in discussing the "Hierarchical Order." The chapter on "Probability," although brief, contains enough information for an understanding of the subsequent methods. The clear treatment of such topics as the standard deviation about the true value and curve fitting will appeal to many readers.

In the chapters on psychophysical methods a distinction is made between *methods* of experiments in order to obtain data and *processes* of calculation after the data have been collected, reminding one of the early controversies as to the nature of statistical method. These psychophysical methods and processes are then discussed and illustrated in detail by much the same plan as in the early edition. The authors agree on the theoretical superiority of the "Constant Process," although it is often not warranted by the distribution of the data. A similar caution appears in the discussion of the curve fitting where it is urged that for certain types of data refined mathematical calculations are out of place except perhaps to discover heterogeneity. This method of discovery, however, seems laborious and clearly ambiguous, the term "heterogeneity" being a relative one.

Part II is largely devoted to correlation, the development of the subject following the general plan of the first edition. Additional chapters on "Selection and Multiple Correlation," "Theory of General Ability," and "Sampling" undoubtedly constitute the most important contribution to the former material. These form the basis for the Spearman controversies in which Dr. Brown and Professor Thompson are in accord. Students of these conflicting theories will find the book of great value. As a general text the new edition retains its place as the best English work on statistical psychology.

KARL J. HOLZINGER

Mental development of children.—Before psychology can function in the daily work of a teacher, it is necessary that the concepts gained in the general systematic study of psychology be directly related to the behavior of the pupils in the schools. To see the subjects treated by psychology in the activities of the child is far more difficult than to see them in their analyzed presentation in a textbook. A recent book[1] on the psychology of childhood attempts to make its discussion more directly useful by arranging the general topics of psychology around the principal stages of growth of children and by giving a large amount of specific and pertinent illustrative material.

[1] N. NIEMEYER, *Children and Childhood.* London, England: Oxford University Press, 1921. Pp. 206.

The author recognizes five principal stages of growth, limiting them as follows: (1) children from one to five years, (2) from five to seven years, (3) a transition stage covering the time from six and one-half to eight and one-half years, (4) from nine to twelve years, and, finally, (5) the adolescent period from twelve to sixteen years. The book in no sense falls into the error of assuming that certain subjects, such as imagination, are limited to one specific stage; rather it introduces a topic during the stage in which its relation to the rest of life is most clearly marked. The particular merit of the book lies in the fact that topics of psychology are presented, not by the usual method of logical analysis, but by beginning with actual experiences of children and leading from these experiences to their psychological explanations. The author has gathered together in the latter part of the book a considerable body of evidence and illustration taken from classic writings. This material is presented, not as proof, but as evidence of tendencies common to the experience of most individuals.

The book is sufficiently rich in detail to be of real service to the teacher who has not majored in psychology. This detailed manner of presentation, as illustrated by the discussion of "Nerve and Muscle" and "The Brain and Education," may prove somewhat tedious to the more mature student of psychology, but it is just this type of treatment which commends the book to the average teacher. The book is sound and modern in view, making a superior addition to the list of child-study books.

G. T. BUSWELL

A state survey.—The development of an index number, by which the efficiency of a state school system can be measured on a comparative basis, provides an added stimulus toward self-improvement among the various states. According to Dr. Ayres, the schools of Kentucky ranked thirty-fifth in 1890, thirty-sixth in 1900, fortieth in 1910, and forty-fifth in 1918. Kentucky is clearly falling behind in educational progress. Public interest has been aroused by this condition of affairs, and now many organizations throughout the state are demanding a better educational system. In 1920 the state legislature enacted a law providing for a state educational survey, to be conducted by experts brought in from without the state. The assistance of the General Education Board was secured, the survey[1] being conducted under the local direction of Dr. Frank P. Bachman.

The report is divided into two sections. Part I deals with the present condition of schools, while Part II takes up the needed improvements. In the first section particular attention is given to the organization of schools, both state and local. It is the opinion of the surveyors that the present "happy-go-lucky, do-as-you-please régime" must give way to an entirely new type of organization.

[1] *Public Education in Kentucky.* New York: General Education Board, 1921. Pp. ix+213.

The chapter dealing with teachers brings many interesting facts to light. Sixty-three per cent of the elementary teachers have less than a full high-school training, while 23 per cent have never gone beyond the elementary school. Of course, the bulk of the teachers with lack of training are to be found in the rural schools. Nevertheless, even in the cities, both the training and the salaries of teachers compare very unfavorably with those in other states. The survey recommends both better teacher training and a new system of certification.

Other topics are taken up, such as buildings, high schools, pupil progress and instruction, the course of study, and finances. For current expenditures, the city schools spend only about three-fourths of the average of the country at large, while for her rural schools she spends less than one-half of the general average. Kentucky is shirking her duty to her school system.

In Part II many needed improvements are proposed, followed by suggestions of methods of procedure.

> The improvement of the schools of Kentucky requires better organization and administration, better trained teachers, larger schools, a longer school term, and more liberal financial support [p. 149].

The report is written in a clear, non-technical style, which can be read intelligently by the average citizen. Photographs of the various types of school buildings are scattered throughout the book, showing in a concrete manner the need of more attention to material equipment. The survey not only shows existing conditions but strives to awaken public sentiment in order to bring about a deeper appreciation of the scope and value of public education.

SHIRLEY HAMRIN

Practical language training.—The fundamental subject in the public schools is language. The particular phases of language training that have been most difficult to develop are those of oral and written expression. One of the chief difficulties has been lack of language and grammar books that are organized in keeping with the scientific principles of education which have been set up through carefully conducted experiments. It was to supply this lack of practical and yet scientifically organized language materials that a three-book series[1] of English texts was prepared by Potter, Jeschke, and Gillet.

The *Primary Book* is intended for the third and fourth grades. The fundamental idea around which the materials of this book are organized is well stated in the Preface:

> It is the purpose of the present book to provide a series of schoolroom situations, so built up as to give pupils delightful experiences in speaking and writing good English. Since one can no more teach without the interest of the pupil than see without light, these situations have for their content the natural interests of children. They there-

[1] MILTON C. POTTER, H. JESCHKE, and HARRY O. GILLET, *Oral and Written English. Primary Book*, pp. 274+xxx; *Intermediate Book*, pp. viii+270+xxiii; *Complete Book*, pp. vi+418+xxxiv. BOSTON: Ginn & Co., 1921.

fore include child life and the heroic aspects of mature life, fairies and fairyland, and the outer world, particularly animal life. Around these interests as motivating centers there group themselves numerous exercises, drills, games, and lessons of great variety, many of them calling for animated physical activity, pantomime, and dramatization [p. iii].

This book contains an abundance of materials for oral work, the written composition work being introduced gradually. All of the materials are well selected and carefully graded so as to assure consistent progress in the use of good English. The twenty-five pages of fine-print notes to the teacher constitute a genuine pedagogy of English teaching for these two grades.

The *Intermediate Book* is intended for the fifth and sixth grades. The keynote of the work in these grades is stated very clearly in the second paragraph of the Preface:

> Perhaps the least interesting and, as English has usually been taught, the least profitable side of the entire subject has been the correction of compositions. Here has been drudgery indeed, and in most instances drudgery without compensation. A better understanding of the whole English problem has enabled the newer education to effect a signal transformation. It means nothing more or less than *a change of critics*. Heretofore pupils have been little more than comparatively indifferent bystanders, as teachers corrected their compositions. Now they become the critics themselves, do the correcting themselves, and themselves apply to their compositions the knowledge of sentence writing, paragraph writing, correct use, etc., that has been imparted to them for this very purpose. The Group Exercise—that is, the socialized recitation—provides both the opportunity and the machinery for this significant pupil activity [p. iii].

This book has an adequate amount of excellently graded materials for oral and written composition work. The work in written composition is of the most practical sort and develops very useful habits of study as well as mastery of the elements of written speech. Simple and practical grammar habits are introduced in connection with the composition work.

The *Complete Book* is intended for the upper grades and the first years of junior high school. The basic idea of its organization is set forth as follows:

> This book is less a textbook in the science of grammar than a laboratory manual in the art of speaking and writing correct English. The plan provides for the alternation of grammar with composition, and also for the larger alternation of both with habit-forming correct-usage drills. There is a clear-cut separation of grammar that is immediately usable from grammar whose interest is more remote. All this indicates the radically practical purpose of these lessons [p. iii].

The materials of the chapters are organized in the divisions: grammar, composition, review, and drill. The more technical phases of grammar, that are not expected to be employed by immature pupils in writing and speaking, are given in the Appendix. One of the most important features of the book is the section of pedogogical notes to the teacher.

The point of view that practice in the use of oral and written speech should be a spontaneous, enjoyable exercise for the pupils, and the idea that the pupils

must be the critics of their own and of their classmates' productions in oral and written composition in order to grow in the mastery of correct, fluent speech are both psychologically sound. The materials of the three books are so well organized in keeping with these two ideas that teachers who accept these principles as the guide to their practice will find the books most valuable aids in the teaching of English. The efficiency of the teaching will be greatly improved by giving careful attention to the notes to the teacher which accompany each book in the series. These notes are a very practical guide in selecting and adapting the teacher's technique in the presenting of each phase of the work. This series of books supplies a long-felt need and should find a very wide field of usefulness in the public schools.

H. W. NUTT

Minimal essentials in language.—Concentration of effort upon a few indispensable language principles necessary for good practice and the elimination of "a few, definite, widely prevalent errors," pressing both of these endeavors persistently by motivated drill—these are two of the keynotes of modern thought in teaching the mother-tongue. A program with suitable materials for carrying out this practice is furnished by Messrs. Miller and Paul in their series of English texts[1] for the grades.

Other features of modern reform movement in teaching the vernacular are equally well provided for in the series: enlisting the co-operation of other classes in supervising language habits; choosing topics from the children's own interests; discriminating use of the project method; self-criticism on the part of the pupils; the socialization of all expressional relations; the stressing of letter-writing as the form of composition in most general use—these and other modern notes are embodied in a very usable form in the books of this series.

R. L. LYMAN

A citizenship course in United States history.—In 1913 a committee of the American School Citizenship League began working on a course of study in history for the elementary grades. The findings of this committee have recently appeared.[2] They are set forth in five small volumes, one dealing with the general course, another with the course for Grades IV and V, another with the course for Grade VI, and one each for the courses in Grades VII and VIII.

There is nothing strikingly new in the general recommendations. The work in the first three grades deals with primitive life and the beginning of things, and that of Grades IV and V with the biography of representative men. European background of American history is recommended for Grade VI and

[1] WILLIAM D. MILLER and HARRY G. PAUL, *Practical English. Book I*, pp. 317. *Book II*, pp. 315. Chicago: Lyons and Carnahan, 1921.

[2] *An American Citizenship Course in United States History. Book I*, pp. x+247; *Book II*, pp. x+170; *Book III*, pp. x+178; *Book IV*, pp. x+251; *General Course*, pp. vi+167. New York: Charles Scribner's Sons, 1921.

United States history for Grades VII and VIII. Those familiar with the Report of the Committee of Eight, which appeared in 1909, will immediately recognize the striking similarity of the two reports.

Books I, II, III, and IV of the report contain, besides the discussion of the course for a grade or grades, type studies which are the products of tried and tested practice. These type studies are intended to give an actual plan of procedure for the use of both teacher and pupil. They are, indeed, the most worth-while phases of the report and should be of considerable value to teachers in the elementary grades.

As a whole, the report must be characterized as very conservative. The committee responsible for it seems willing to reaffirm a report which is now entering its teens. This means that little consideration has been given by the committee to the notable changes of the past decade. The junior high school is not recognized in the report, and the demand for a radical reorganization of the work in United States history for the upper grades is also ignored. Speaking generally, the report is backward- rather than forward-looking.

R. M. TRYON

The content and adaptability of general-science texts.—The claims for any subject of instruction must, to a considerable degree, be based on the content of the instruction in that subject. The content of instruction in the various subjects of the elementary- and secondary-school curricula is generally determined by the content of the textbooks or reference books. It seems logical, therefore, that an analysis of the available textbooks would prove of worth both in determining the claims for the subject and the changes to be made in order to improve instruction in the subject.

The purpose of a recent study[1] in the field of general sciences has been to present a quantitative analysis of the subject-matter in the various general-science texts and to give the reactions of children of the last three grammar grades to science.

From the data secured in the analysis of the subject-matter of general science it was found that the space devoted to instruction in the eighteen texts examined comprised topics which might be considered as belonging to eight large science groups, which ranked in importance as to space as follows: physics, physiography, biology, physiology, chemistry, household arts, astronomy, and miscellaneous. The author finds that, with the exception of household arts and zoölogy, there is a fairly well-established agreement among the authors of general science as to what subject-matter is appropriate. Tables are displayed which show that general science is presented in the form of small unit topics, two or three pages in extent. Factual evidence supports the conclusion that the authors of general-science texts have found it least difficult

[1] HANOR A. WEBB, *General Science Instruction in the Grades.* Nashville, Tennessee: George Peabody College for Teachers, 1921. Pp. 105.

to scatter the subject-matter of physics over the pages of their texts, linking the phenomena of that science with the topics of the others. In summarizing, the author concludes that the correlations between physics and chemistry and physics and household arts are sufficiently strong to indicate a pairing, and also that general science as a whole is not unified, however much unity of plan an individual author may embody in his text.

Part II of the study is concerned with determining the adaptability of general science in the last three grammar grades. In order to determine this the author devised certain tests which were constructed around twenty-five important and characteristic topics selected from each of the five sciences. The tests were so arranged that the present knowledge and knowledge after reading each selection were ascertained. In all, 9,918 sets of tests were given and graded. Some of the conclusions reached are summarized in the following quotation:

> Real principles of science . . . . are not assimilated by children of the fifth grade and below; physiology and physiography are appropriate in the sixth grade; biology and possibly physics may be successfully taught in the seventh grade; while the laws and phenomena of chemistry seem unsuited to any grade [p. 104].

The study is valuable for its analysis of general-science texts and of the adaptability of these texts to certain grades. It is true that "General Science instruction in the grades must be studied and planned from two angles—content and method," but it appears that neither the content of textbooks nor the fact that a child can assimilate certain knowledge is sufficient to prove what should constitute a course in general science. However, the study contains information which will be of considerable value to those interested in the content of general-science texts and in the material which children of the last three grammar grades are capable of assimilating.

JAMES VAUGHN

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